

=> FILE REG

FILE 'REGISTRY' ENTERED AT 16:27:40 ON 06 MAR 2006

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STRUCTURE FILE UPDATES: 5 MAR 2006 HIGHEST RN 875875-45-9

DICTIONARY FILE UPDATES: 5 MAR 2006 HIGHEST RN 875875-45-9

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TSCA INFORMATION NOW CURRENT THROUGH January 6, 2006

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*
* The CA roles and document type information have been removed from *
* the IDE default display format and the ED field has been added, *
* effective March 20, 2005. A new display format, IDERL, is now *
* available and contains the CA role and document type information. *
*

Structure search iteration limits have been increased. See HELP SLIMITS for details.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/ONLINE/UG/regprops.html>

=> FILE HCAPLU

FILE 'HCAPLUS' ENTERED AT 16:27:45 ON 06 MAR 2006

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FILE COVERS 1907 - 6 Mar 2006 VOL 144 ISS 11

FILE LAST UPDATED: 5 Mar 2006 (20060305/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> D QUE

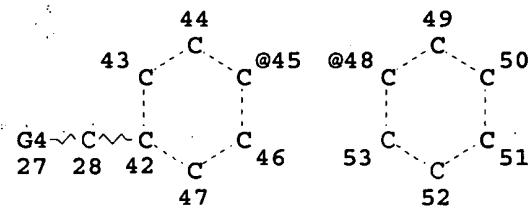
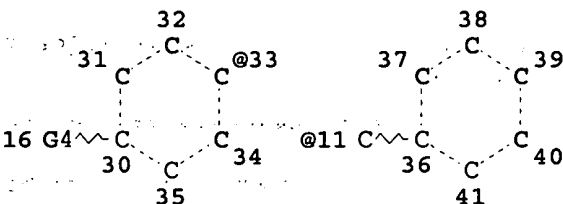
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 L11 SCR 2026
 L12 STR

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G5 24

G4—Ak
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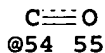
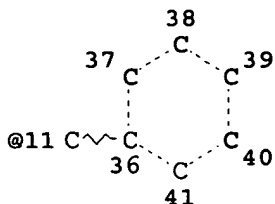
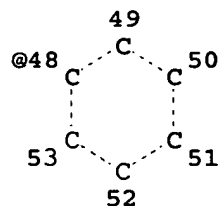
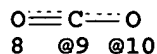
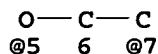
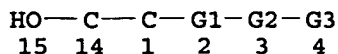


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GRAPH ATTRIBUTES:
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 NUMBER OF NODES IS 53

STEREO ATTRIBUTES: NONE

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 L27 (3) SEA FILE=REGISTRY ABB=ON L26 AND (ETHOXY(W)ETHOXY OR 2(W)ETHYL)
 L53 STR



56, 554 structures
covering Claim 2

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STEREO ATTRIBUTES: NONE

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L58 1 SEA FILE=REGISTRY ABB=ON CARBON DIOXIDE/CN
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L78 3 SEA FILE=REGISTRY ABB=ON L26 NOT L27 - RN'S from original search
L79 540 SEA FILE=HCAPLUS ABB=ON L78
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L81 48 SEA FILE=HCAPLUS ABB=ON L80 AND (FABRIC# OR TEXTILE? OR CARPET? OR WOOL? OR COTTON? OR CLOTH? OR GARMENT? OR UPHOLSTER? OR DRAPES OR CURTAIN? OR FURNITURE?)
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L83 46 SEA FILE=HCAPLUS ABB=ON L82 AND (1840-2000)/PRY,AY, PY

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limited by date

L83 ANSWER 1 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2003:1004032 HCAPLUS

DN 140:6435

TI Cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent

IN Damaso, Gene R.; Schulte, James E.; Racette, Timothy L.

PA R. R. Street & Co., Inc., USA

SO U.S. Pat. Appl. Publ., 20 pp., Cont.-in-part of U.S. Ser. No. 419,345.

CODEN: USXXCO

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|--|------|----------|-----------------|--------------|
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| | US 6755871 | B2 | 20040629 | | |
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| | CA 2388913 | C | 20040413 | | |
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| | AU 777996 | B2 | 20041111 | AU 2000-80218 | 20001013 <-- |
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| | US 2002010965 | A1 | 20020131 | US 2001-843103 | 20010425 <-- |
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| | US 6736859 | B2 | 20040518 | | |
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| | CA 2444807 | AA | 20021031 | CA 2002-2444807 | 20020418 |
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 WO 2002086223 A1 20021031 WO 2002-US12304 20020418
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 EP 1381728 A1 20040121 EP 2002-736584 20020418
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 EP 1383951 A1 20040128 EP 2002-725726 20020418
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 NZ 529724 A 20050128 NZ 2002-529724 20020418
 BR 2002009201 A 20050222 BR 2002-9201 20020418
 US 2003220219 A1 20031127 US 2003-427426 20030430
 US 2004168262 A1 20040902 US 2004-797516 20040310 <--
 US 2004173246 A1 20040909 US 2004-804338 20040318 <--
 PRAI US 1999-419345 A2 19991015 <--
~~US 2000-686773~~ A 20001011 <--
 WO 2000-US28432 W 20001013 <--
 WO 2000-US28433 W 20001013 <--
 US 2001-837849 A 20010418
 US 2001-843103 A 20010425
 US 2002-57068 A1 20020125
 WO 2002-US12239 W 20020418
 WO 2002-US12304 W 20020418

AB A cleaning system that utilizes an organic cleaning solvent and pressurized fluid solvent is disclosed. The system has no conventional evaporative hot air drying cycle. Instead, the system utilizes the solubility of the organic solvent in pressurized fluid solvent as well as the phys. properties of pressurized fluid solvent. After an organic solvent cleaning cycle, the solvent is extracted from the textiles at high speed in a rotating drum in the same way conventional solvents are extracted from textiles in conventional evaporative hot air dry cleaning machines. Instead of proceeding to a conventional drying cycle, the extracted textiles are then immersed in pressurized fluid solvent to extract the residual organic solvent from the textiles. This is possible because the organic solvent is soluble in pressurized fluid solvent. After the textiles are immersed in pressurized fluid solvent, pressurized fluid solvent is pumped from the drum. Finally, the drum is de-pressurized to atmospheric pressure to evaporate any remaining pressurized fluid solvent, yielding clean, solvent free textiles. The organic solvent is preferably selected from terpenes, halohydrocarbons, certain glycol ethers, polyols, ethers, esters of glycol ethers, esters of fatty acids and other long chain carboxylic acids, fatty alcs. and other long-chain alcs., short-chain alcs., polar aprotic solvents, siloxanes, hydrofluoroethers, dibasic esters, and aliphatic hydrocarbons solvents or similar solvents or mixts. of

such solvents and the pressurized fluid
solvent is preferably densified carbon dioxide

IC ICM B08B003-04

ICS D06F001-00

INCL 134026000; 134088000; 134028000; 134032000; 134033000; 134034000;
134036000; 134042000; 008142000; 043002000

CC 46-6 (Surface Active Agents and Detergents)

ST org solvent cleaning compn

IT Hydrocarbons, uses

RL: NUU (Other use, unclassified); USES (Uses)
(bromo, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Hydrocarbons, uses

RL: NUU (Other use, unclassified); USES (Uses)
(chloro, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Cleaning

(cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Terpenes, uses

RL: NUU (Other use, unclassified); USES (Uses)
(cyclic, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Carboxylic acids, uses

RL: NUU (Other use, unclassified); USES (Uses)
(dicarboxylic, esters, solvent; cleaning system utilizing an
organic cleaning solvent and a pressurized
fluid solvent)

IT Carboxylic acids, uses

RL: NUU (Other use, unclassified); USES (Uses)
(esters, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Glycols, uses

RL: NUU (Other use, unclassified); USES (Uses)
(ethers, esters, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Glycols, uses

RL: NUU (Other use, unclassified); USES (Uses)
(ethers, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Alcohols, uses

RL: NUU (Other use, unclassified); USES (Uses)
(fatty, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Hydrocarbons, uses

RL: NUU (Other use, unclassified); USES (Uses)
(fluoro, solvent; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Ethers, uses

RL: NUU (Other use, unclassified); USES (Uses)
(fluoroalkyl, solvent; cleaning system utilizing an organic

- cleaning solvent and a pressurized fluid solvent)
- IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(glycol, esters, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(glycol, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Hydrocarbons, uses
RL: NUU (Other use, unclassified); USES (Uses)
(halo, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Solvents
(organic; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Essential oils
RL: NUU (Other use, unclassified); USES (Uses)
(pine, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(polyhydric, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(short-chain, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Ethers, uses
Hydrocarbons, uses
Isoalkanes
Ketones, uses
Polysiloxanes, uses
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Fatty acids, uses
RL: NUU (Other use, unclassified); USES (Uses)
(soya, Me esters, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT Cyclic compounds
RL: NUU (Other use, unclassified); USES (Uses)
(terpenes, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT 124-38-9, Carbon dioxide, uses
RL: NUU (Other use, unclassified); USES (Uses)
(densified, solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)
- IT 67-68-5, Dimethyl sulfoxide, uses 68-12-2, Dimethylformamide, uses
76-13-1, 1,1,2-Trichlorotrifluoroethane 80-56-8, α -Pinene

104-76-7, 2-Ethylhexanol 106-94-5, n-Propyl bromide 107-41-5, Hexylene glycol 108-32-7, Propylene carbonate 111-55-7, Ethylene glycol diacetate 112-17-4, Decyl acetate 143-24-8, Tetraethylene glycol dimethyl ether 355-42-0, Perfluorohexane 541-02-6, Decamethylcyclopenta-siloxane 1072-33-9, Tridecyl acetate 1119-40-0, Dimethyl glutarate 5274-66-8, Triethylene glycol monooleyl ether 5989-27-5 9004-78-8, Ethylan HB4 163702-07-6, 1-Methoxynonafluorobutane

RL: NUU (Other use, unclassified); USES (Uses)
(solvent; **cleaning** system utilizing an organic **cleaning solvent** and a **pressurized fluid solvent**)

IT 124-38-9, Carbon dioxide, uses

RL: NUU (Other use, unclassified); USES (Uses)
(densified, solvent; **cleaning** system utilizing an organic **cleaning solvent** and a **pressurized fluid solvent**)

RN 124-38-9 HCAPLUS

CN Carbon dioxide (8CI, 9CI) (CA INDEX NAME)

O=C=O

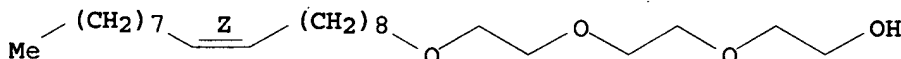
IT 5274-66-8, Triethylene glycol monooleyl ether

RL: NUU (Other use, unclassified); USES (Uses)
(solvent; **cleaning** system utilizing an organic **cleaning solvent** and a **pressurized fluid solvent**)

RN 5274-66-8 HCAPLUS

CN Ethanol, 2-[2-[2-[(9Z)-9-octadecenyl]oxy]ethoxy]ethoxy] - (9CI) (CA INDEX NAME)

Double bond geometry as shown.



RE.CNT 62 THERE ARE 62 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 2 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2002:833041 HCAPLUS

DN 137:339322

TI **Cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent**

IN Damaso, Gene R.; Schulte, James E.; Racette, Timothy L. ✓

PA USA

SO PCT Int. Appl., 61 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---------------|------|----------|-----------------|----------|
| PI | WO 2002086223 | A1 | 20021031 | WO 2002-US12304 | 20020418 |
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applicant

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 BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
 EP 1381728 A1 20040121 EP 2002-736584 20020418
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 EP 1383951 A1 20040128 EP 2002-725726 20020418
 R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
 IE, SI, LT, LV, FI, RO, MK, CY, AL, TR
 NZ 529724 A 20050128 NZ 2002-529724 20020418
 BR 2002009201 A 20050222 BR 2002-9201 20020418
 US 2003220219 A1 20031127 US 2003-427426 20030430
 PRAI US 2001-837849 A 20010418
 US 1999-419345 A2 19991015 <--
US 2000-686773 A 20001011 <--
 US 2001-843103 A 20010425
 WO 2002-US12239 W 20020418
 WO 2002-US12304 W 20020418

AB A cleaning system utilizes an organic cleaning solvent and pressurized fluid solvent wherein the solubility of the organic solvent in pressurized fluid solvent as well as the phys. properties of pressurized fluid solvent allow the removal of the organic solvent from the textile without using conventional evaporative hot air drying cycle. After an organic solvent cleaning cycle, the solvent is extracted from the textiles at high speed in a rotating drum in the same way conventional solvents are extracted from textiles in conventional evaporative hot air dry cleaning machines. Instead of proceeding to a conventional drying cycle, the extracted textiles are then immersed in pressurized fluid solvent to extract the residual organic solvent from the textiles. After the textiles are immersed in pressurized fluid solvent, pressurized fluid solvent is pumped from the drum. Finally, the drum is de-pressurized to atmospheric pressure to evaporate any remaining pressurized fluid solvent, yielding clean, solvent free textiles.

The organic solvent is preferably selected from terpenes, halohydrocarbons, certain glycol ethers, polyols, ethers, esters of glycol ethers, esters of fatty acids and other long chain carboxylic acids, fatty alcs. and other long-chain alcs., short-chain alcs., polar aprotic solvents, siloxanes, hydrofluoroethers, dibasic esters, and aliphatic hydrocarbons solvents or similar solvents or mixts. of such solvents and the pressurized fluid solvent is preferably densified carbon dioxide.

IC ICM D06L001-02
ICS C11D007-50; B08B007-00

CC 46-5 (Surface Active Agents and Detergents)

ST dry clean solvent terpene halohydrocarbon glycol ether;
densified carbon dioxide dry clean
pressurized fluid solvent

IT Solvents
(aprotic; cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Hydrocarbons, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(bromo; cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Hydrocarbons, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(chloro; cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Dry cleaning solvents
(cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Hydrocarbons, uses
Ketones, uses
Siloxanes (nonpolymeric)
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Terpenes, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(cyclic; cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Carboxylic acids, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(esters, mono- or di-basic; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Glycols, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(ethers, optionally esters; cleaning system utilizing an organic
cleaning solvent and a pressurized fluid
solvent)

IT Alcohols, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(fatty; cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Hydrocarbons, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(fluoro; cleaning system utilizing an organic cleaning
solvent and a pressurized fluid solvent)

IT Ethers, uses
RL: NUU (Other use, unclassified); TEM (Technical or engineered material
use); USES (Uses)
(glycol, optionally esters; cleaning system utilizing an organic

cleaning solvent and a pressurized fluid solvent)

IT Hydrocarbons, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(halo; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT Terpenes, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(isomers; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT Ethers, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(optionally hydrofluoro; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT Essential oils

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(pine; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT Alcohols, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(polyhydric; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT Alcohols, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(short-chain; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT Cyclic compounds

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(terpenes; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT 57-55-6D, Monopropylene glycol, ether 80-56-8D, α -Pinene, isomers

107-21-1D, Monoethylene glycol, ether derivative 111-46-6D,

Diethylene glycol, ether derivative 112-27-6D, Triethylene glycol,

ether 5989-27-5 24800-44-0D, Tripropylene glycol, ether

25265-71-8D, Dipropylene glycol, ether

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT 124-38-9, Carbon dioxide, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(densified, pressurized fluid solvent; cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

IT 111-46-6D, Diethylene glycol, ether derivative 112-27-6D,

Triethylene glycol, ether 24800-44-0D, Tripropylene glycol,

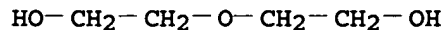
ether 25265-71-8D, Dipropylene glycol, ether

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

RN 111-46-6 HCAPLUS

CN Ethanol, 2,2'-oxybis- (9CI) (CA INDEX NAME)



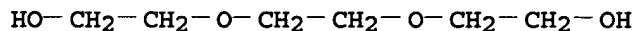
RN 112-27-6 HCAPLUS

CN Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis- (9CI) (CA INDEX NAME)



RN 24800-44-0 HCAPLUS

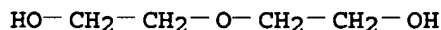
CN Propanol, [(1-methyl-1,2-ethanediyl)bis(oxy)]bis- (9CI) (CA INDEX NAME)



3 (D1-Me)

RN 25265-71-8 HCAPLUS

CN Propanol, oxybis- (9CI) (CA INDEX NAME)



2 (D1-Me)

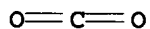
IT 124-38-9, Carbon dioxide, uses

RL: NUU (Other use, unclassified); TEM (Technical or engineered material use); USES (Uses)

(densified, pressurized fluid solvent;
cleaning system utilizing an organic cleaning solvent and a pressurized fluid solvent)

RN 124-38-9 HCAPLUS

CN Carbon dioxide (8CI, 9CI) (CA INDEX NAME)



RE.CNT 8 THERE ARE 8 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 3 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:713508 HCAPLUS

DN 135:258890

TI Aqueous acidic metal cleaning composition with controlled ph

IN Scriven, Herman; Baker, Robert; Corey, Garland

PA BBJ Environmental Solutions Inc., USA

SO PCT Int. Appl., 63 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|--------------|-----------------|--------------|
| PI | WO 2001070922 | A1 | 20010927 | WO 2001-US8794 | 20010320 <-- |
| | W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | US 6465404 | B2 | 20021015 | US 2001-811582 | 20010320 <-- |
| PRAI | US 2000-190935P | P | 20000321 <-- | | |

AB Aqueous acidic metal **cleaning** compns. with controlled pH especially useful in the **cleaning** of metals and combinations of metals and nonmetals with minimal corrosion effect, particular on aluminum, comprises at least one nitrogen containing compound to provide a stabilized pH; a terpene emulsifier, a nonionic surfactant and optionally at least one water soluble solvent having a vapor pressure of less than 4 mm Hg at 20 °C.

IC ICM C11D003-02

ICS C11D003-18; C11D001-72; C23G001-02

CC 46-6 (Surface Active Agents and Detergents)

ST acidic metal **cleaning** compn pH control

IT Onium compounds

RL: TEM (Technical or engineered material use); USES (Uses)
 (1-(carboxymethyl)-4,5-dihydro-1-(2-hydroxyethyl)-2-norcoco alkyl imidazolium, hydroxides, sodium salts; aqueous acidic metal **cleaning** composition with controlled ph)

IT Fluorides, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (Ammonium derivs.; aqueous acidic metal **cleaning** composition with controlled ph)

IT Amides, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (N-(hydroxyalkyl); aqueous acidic metal **cleaning** composition with controlled ph)

IT Emulsifying agents

(Terpene or d-Limonene; aqueous acidic metal **cleaning** composition with controlled ph)

IT Alcohols, uses

RL: TEM (Technical or engineered material use); USES (Uses)
 (amino, optionally salt derivs.; aqueous acidic metal **cleaning** composition with controlled ph)

IT Corrosion inhibitors

Detergents

(aqueous acidic metal **cleaning** composition with controlled ph)

IT Lactones

RL: NUU (Other use, unclassified); USES (Uses)
 (aqueous acidic metal **cleaning** composition with controlled ph)

IT Alkali metal fluorides

RL: TEM (Technical or engineered material use); USES (Uses)
 (aqueous acidic metal **cleaning** composition with controlled ph)

IT **Cleaning**

(chemical; aqueous acidic metal cleaning composition with controlled ph)

IT Amides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coco, Modified; aqueous acidic metal cleaning composition with controlled ph)

IT Glycols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(ethers; aqueous acidic metal cleaning composition with controlled ph)

IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethoxylated; aqueous acidic metal cleaning composition with controlled ph)

IT Silicates, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(fluoro-, Sodium derivs.; aqueous acidic metal cleaning composition with controlled ph)

IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(glycol; aqueous acidic metal cleaning composition with controlled ph)

IT 616-45-5D, Pyrrolidone, derivs.
RL: NUU (Other use, unclassified); USES (Uses)
(aqueous acidic metal cleaning composition with controlled ph)

IT 60-00-4, EDTA, uses 102-71-6, Triethanolamine, uses 111-42-2D, Diethanolamine, optionally coconut derivs. 139-13-9D, NTA, optionally salts 1333-83-1, Sodium bifluoride 1341-49-7, Ammonium bifluoride 7789-29-9, Potassium bifluoride 7789-74-4D, Calcium fluorophosphate, derivs. 9016-45-9, Nonyl phenol ethoxylate 16545-54-3 25498-49-1, Tripropylene glycol methyl ether 28299-33-4D, Imidazoline, Modified derivs.
RL: TEM (Technical or engineered material use); USES (Uses)
(aqueous acidic metal cleaning composition with controlled ph)

IT 25498-49-1, Tripropylene glycol methyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(aqueous acidic metal cleaning composition with controlled ph)

RN 25498-49-1 HCAPLUS

CN Propanol, [2-(2-methoxymethylethoxy)methylethoxy]- (9CI) (CA INDEX NAME)

HO-CH₂-CH₂-O-CH₂-CH₂-O-CH₂-CH₂-OMe

3 (D1-Me)

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 4 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:427379 HCAPLUS

DN 135:34641

TI Low odor, nonaerosol hard surface cleaner with enhanced soil removal

IN Robbins, Michael H.; Julian, Jennifer C.; Thompson, Suzanne M.; Robinson, Gary L.; Choy, Clement K.; Gossett, Elizabeth A.

PA The Clorox Company, USA

SO U.S., 7 pp., Cont.-in-part of U.S. 5,972,876.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 8

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | US 6245728 | B1 | 20010612 | US 1999-427175 | 19991025 <-- |
| | US 5972876 | A | 19991026 | US 1996-731653 | 19961017 <-- |
| | KR 2000049238 | A | 20000725 | KR 1999-703342 | 19990416 <-- |
| | US 6214784 | B1 | 20010410 | US 1999-427156 | 19991025 <-- |
| | WO 2001030950 | A1 | 20010503 | WO 2000-US28404 | 20001013 <-- |
| | W: AU, BR, CA, CN, JP, KR, MX | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 2001049347 | A1 | 20011206 | US 2001-861049 | 20010518 <-- |
| | US 6399555 | B2 | 20020604 | | |
| PRAI | US 1996-731653 | A2 | 19961017 | <-- | |
| | US 1999-427175 | A | 19991025 | <-- | |
| AB | An aqueous hard surface cleaner with improved soil removal contains (a) either an anionic, nonionic, amphoteric surfactant, and mixts., optionally, a quaternary ammonium surfactant, 0.001-25, (b) ≥ 1 water-soluble or dispersible organic solvent having a vapor pressure ≥ 0.001 mm Hg at 25°, 0.1-50, (c) a combination of (i) an incompletely neutralized K ethylenediamine-tetraacetate (EDTA) 0.5-15 and (ii) a precipitating K co-builder as chelating agents (e.g. K ₂ CO ₃) 0.1-15%, at i/ii ratio 1-10:1 and (d) the remainder, H ₂ O. | | | | |
| IC | ICM C11D001-29 | | | | |
| | ICS C11D001-72; C11D003-30; C11D003-43 | | | | |
| INCL | 510238000 | | | | |
| CC | 46-6 (Surface Active Agents and Detergents) | | | | |
| ST | potassium EDTA chelating agent cleaning compn; surfactant chelating agent cleaning compn; soap scum removal bathroom cleaning compn | | | | |
| IT | Amine oxides | | | | |
| | RL: TEM (Technical or engineered material use); USES (Uses) (C12; low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | Surfactants | | | | |
| | (amphoteric; low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | Surfactants | | | | |
| | (anionic; low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | Detergents | | | | |
| | (low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | Quaternary ammonium compounds, uses | | | | |
| | RL: TEM (Technical or engineered material use); USES (Uses) (low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | Surfactants | | | | |
| | (nonionic; low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | 583-52-8, Potassium oxalate K ₂ C ₂ O ₄ 584-08-7, Potassium carbonate K ₂ CO ₃ | | | | |
| | RL: TEM (Technical or engineered material use); USES (Uses) (co-builder; low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | 5964-35-2 17572-97-3 | | | | |
| | RL: MOA (Modifier or additive use); USES (Uses) (low odor, nonaerosol hard surface cleaner with enhanced soil removal) | | | | |
| IT | 112-34-5, Butyl carbitol 9002-93-1 9016-45-9, Polyethylene | | | | |

glycol nonylphenol ether 55963-06-9

RL: TEM (Technical or engineered material use); USES (Uses)
 (low odor, nonaerosol hard surface cleaner with enhanced soil removal)

IT 112-34-5, Butyl carbitol

RL: TEM (Technical or engineered material use); USES (Uses)
 (low odor, nonaerosol hard surface cleaner with enhanced soil removal)

RN 112-34-5 HCAPLUS

CN Ethanol, 2-(2-butoxyethoxy) (8CI, 9CI) (CA INDEX NAME)

$$\text{n-BuO}-\text{CH}_2-\text{CH}_2-\text{O}-\text{CH}_2-\text{CH}_2-\text{OH}$$

RE.CNT 32 THERE ARE 32 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 5 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:349174 HCAPLUS

DN 134:341701

TI Floor polishing and cleaning agent with fast drying speed

IN Nagai, Satoshi; Yamada, Hiroyuki; Hayakawa, Toshiharu

PA Kao Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | JP 2001131495 | A2 | 20010515 | JP 1999-251633 | 19990906 <-- |
| PRAI | JP 1999-239595 | A | 19990826 | <-- | |

AB Title polishing and cleaning agent comprises (A) acrylic resins and (B) glycol-type solvents, having vapor pressure (VP) ≤ 200 Pa at 20° , represented by the formula of $\text{RO}(\text{C}_2\text{H}_4\text{O})_x(\text{C}_3\text{H}_6\text{O})_y\text{R}'$ [R, R': H (except R = R'), C1-7 alkyl; $0 \leq \text{average } x \leq 5$ and $0 \leq \text{average } y \leq 3$ (except $x=y=0$)], wherein the content of B is 0.5-3.0 wt% and non-volatile content 3-8 wt%. Thus, a composition comprising Primal NT 2624 13.2, diethylene glycol monoethyl ether (VP = 17 Pa at 20°) 1.5 parts, and other additives, showed drying speed 3.0 min and glossiness enhancement 12.

IC ICM C09G001-16

ICS C08L033-20; C09D005-00; C09D133-00

CC 42-11 (Coatings, Inks, and Related Products)

IT Glycols, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (ethers; preparation of floor polishing and cleaning agent with fast drying speed)

IT Ethers, uses

RL: NUU (Other use, unclassified); USES (Uses)
 (glycol; preparation of floor polishing and cleaning agent with fast drying speed)

IT Floors

Polishing materials

Solvents

(preparation of floor polishing and cleaning agent with fast drying speed)

IT Acrylic polymers, uses

RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or

engineered material use); USES (Uses)
(preparation of floor polishing and cleaning agent with fast drying speed)

IT 111-77-3, Diethylene glycol monomethyl ether 111-90-0,
Diethylene glycol monoethyl ether
RL: NUU (Other use, unclassified); USES (Uses)
(preparation of floor polishing and cleaning agent with fast drying speed)

IT 33058-70-7, Butyl methacrylate-ethyl acrylate-methacrylic acid-styrene copolymer 168754-93-6, Primal NT 2624
RL: POF (Polymer in formulation); PRP (Properties); TEM (Technical or engineered material use); USES (Uses)
(preparation of floor polishing and cleaning agent with fast drying speed)

IT 111-77-3, Diethylene glycol monomethyl ether 111-90-0,
Diethylene glycol monoethyl ether
RL: NUU (Other use, unclassified); USES (Uses)
(preparation of floor polishing and cleaning agent with fast drying speed)

RN 111-77-3 HCAPLUS

CN Ethanol, 2-(2-methoxyethoxy)- (6CI, 8CI, 9CI) (CA INDEX NAME)

MeO-CH₂-CH₂-O-CH₂-CH₂-OH

RN 111-90-0 HCAPLUS

CN Ethanol, 2-(2-ethoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)

EtO-CH₂-CH₂-O-CH₂-CH₂-OH

L83 ANSWER 6 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:320181 HCAPLUS

DN 134:328256

TI Low odor, hard surface abrasive cleaner with enhanced soil removal

IN Peterson, David; Robbins, Michael H.; Ochomogo, Maria G.; Deleo, Malcolm A.; Selbach, Hanneliese S.

PA Clorox Co., USA

SO PCT Int. Appl., 27 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|--------------|-----------------|--------------|
| PI | WO 2001031110 | A1 | 20010503 | WO 2000-US28372 | 20001013 <-- |
| | W: AU, BR, CA, CN, JP, KR, MX | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| PRAI | WO 2000-US28372 | | 20001013 <-- | | |
| AB | An aqueous, hard surface abrasive cleaner comprises (a) either an anionic, nonionic, amphoteric surfactant, and mixts. thereof with optionally, a quaternary ammonium surfactant; (b) at least one water-soluble or dispersible organic solvent having a vapor pressure of at least 0.001 mmHg at 25°; (c) Tetrapotassium ethylenediaminetetraacetate (K4EDTA) or tripotassium | | | | |

ethylenediaminetetraacetate (K3EDTA) as a chelating agent; (d) an abrasive; and (e) the remainder, water.

IC D06L003-00; D06L003-06

CC 46-6 (Surface Active Agents and Detergents)

IT Alcohols, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (C11-12, ethoxylated; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Amine oxides
 RL: TEM (Technical or engineered material use); USES (Uses)
 (C12, surfactant; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Amine oxides
 RL: TEM (Technical or engineered material use); USES (Uses)
 (C12-16-alkyldimethyl; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Surfactants
 (amphoteric; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Surfactants
 (anionic; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Polyoxyalkylenes, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (block, nonionic surfactant; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Acrylic polymers, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (crosslinked; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Detergents
 (low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Pumice
 Quaternary ammonium compounds, uses
 Zeolite 4A
 RL: TEM (Technical or engineered material use); USES (Uses)
 (low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT Surfactants
 (nonionic; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT 9004-62-0, Cellosize
 RL: TEM (Technical or engineered material use); USES (Uses)
 (Cellosize QR 4400H; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT 9002-88-4, Polyethylene
 RL: TEM (Technical or engineered material use); USES (Uses)
 (abrasive; low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT 67-63-0, Isopropanol, uses 112-34-5, Butyl Carbitol 471-34-1, Calcium carbonate, uses 5964-35-2, Tetrapotassium ethylenediaminetetraacetate 5989-27-5 7631-86-9, Silica, uses 9004-82-4, Calfoam ES 302 11138-66-2, Xanthan gum 13463-67-7, Titania, uses 14807-96-6, Talc, uses 17572-97-3 25155-30-0, Bio-Soft 40S 35884-42-5, Dipropylene glycol butyl ether 106392-12-5, Pluronic P 104 192827-78-4, Carbopol 674 336796-86-2, Barquat 4250Z
 RL: TEM (Technical or engineered material use); USES (Uses)
 (low odor, hard surface abrasive **cleaner** with enhanced soil removal)

IT 112-34-5, Butyl Carbitol 35884-42-5, Dipropylene glycol
butyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(low odor, hard surface abrasive cleaner with enhanced soil
removal)
RN 112-34-5 HCAPLUS
CN Ethanol, 2-(2-butoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-O-CH₂-CH₂-OH

RN 35884-42-5 HCAPLUS
CN Propanol, 1(or 2)-(2-butoxymethylethoxy)- (9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-O-CH₂-CH₂-OH

2 (D1-Me)

RE.CNT 1 THERE ARE 1 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 7 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2001:320047 HCAPLUS

DN 134:328252

TI Improved low odor, hard surface cleaner with enhanced soil
removal

IN Robbins, Michael H.; Julian, Jennifer C.; Thompson, Suzanne M.; Robinson,
Gary L.; Choy, Clement K.; Gossett, Elizabeth A.

PA Clorox Co., USA

SO PCT Int. Appl., 21 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 8

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|--------------|
| PI | WO 2001030950 | A1 | 20010503 | WO 2000-US28404 | 20001013 <-- |
| | W: AU, BR, CA, CN, JP, KR, MX | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 6245728 | B1 | 20010612 | US 1999-427175 | 19991025 <-- |
| PRAI | US 1999-427175 | A | 19991025 | <-- | |
| | US 1996-731653 | A2 | 19961017 | <-- | |

AB An aqueous hard surface cleaner with improved soil removal comprises
(a) either an anionic, nonionic, amphoteric surfactant, and mixts. thereof
with optionally, a quaternary ammonium surfactant, the total amount of the
surfactants being present in a cleaning effective amount; (b) at
least one water-soluble or dispersible organic solvent having a vapor
pressure of at least 0.001 mm Hg at 25°; (c) a combination
of (i) an incompletely neutralized potassium ethylenediaminetetraacetate
(EDTA) and (ii) a precipitating co-builder as chelating agent; and (d) the
remainder, water.

IC ICM C11D001-72

ICS C11D001-86; C11D001-94; C11D003-26; C11D003-43

CC 46-6 (Surface Active Agents and Detergents)

IT Amine oxides
RL: TEM (Technical or engineered material use); USES (Uses)
(C12; improved low odor, hard surface cleaner with enhanced soil removal)

IT Surfactants
(amphoteric; improved low odor, hard surface cleaner with enhanced soil removal)

IT Surfactants
(anionic; improved low odor, hard surface cleaner with enhanced soil removal)

IT Detergents
(improved low odor, hard surface cleaner with enhanced soil removal)

IT Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(improved low odor, hard surface cleaner with enhanced soil removal)

IT Surfactants
(nonionic; improved low odor, hard surface cleaner with enhanced soil removal)

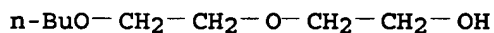
IT 5964-35-2 17572-97-3
RL: MOA (Modifier or additive use); USES (Uses)
(improved low odor, hard surface cleaner with enhanced soil removal)

IT 112-34-5, Butyl carbitol 55963-06-9, BTC 2125
RL: TEM (Technical or engineered material use); USES (Uses)
(improved low odor, hard surface cleaner with enhanced soil removal)

IT 112-34-5, Butyl carbitol
RL: TEM (Technical or engineered material use); USES (Uses)
(improved low odor, hard surface cleaner with enhanced soil removal)

RN 112-34-5 HCAPLUS

CN Ethanol, 2-(2-butoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)



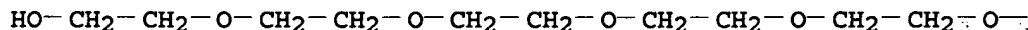
RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 8 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 2000:818602 HCAPLUS
DN 134:102557
TI Silicone Antifoam Performance: Correlation with Spreading and Surfactant Monolayer Packing
AU Jha, B. K.; Christiano, S. P.; Shah, D. O.
CS Center for Surface Science Engineering Departments of Chemical Engineering and Anesthesiology, University of Florida, Gainesville, FL, 32611, USA
SO Langmuir (2000), 16(26), 9947-9954
CODEN: LANGD5; ISSN: 0743-7463
PB American Chemical Society
DT Journal
LA English
AB The relation between the spreading of antifoam oils and their performance is much discussed in the literature, but a demonstrated connection between antifoam spreading and performance was lacking. This paper reports the performance of a poly(dimethylsiloxane) (PDMS)-based antifoam on foam produced by 12 surfactant solns. These include single or mixed surfactant

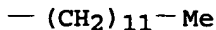
systems, including impure surfactant mixts. to model fabric washing detergents. The oil film spreading pressure, π_o/w , is presented as a simple and relevant measurement of the thermodyn. of antifoam oil spreading. Antifoaming efficacy was measured as the relative reduction in the initial foam height, ΔH_{rel} , using cylinder shake tests at a fixed antifoam dosage. ΔH_{rel} increases with π_o/w , demonstrating a strong statistical correlation between antifoam oil spreading and its performance. Antifoam effectiveness varies with surfactant concentration, surfactant type, and surfactant hydrophobe size and also with increased d. of surfactant packing. Surface shear viscosity, μ_s , was used to quantify surfactant packing. Antifoam effectiveness decreases with increasing surface shear viscosity. This finding provides a potentially useful link between antifoam efficacy and surfactant selection based on well-established surfactant mol. packing parameters. The role of spreading of antifoam oil at the air/surfactant solution interface is studied. Oil film spreading pressure decreases by a power law function with increasing surface shear viscosity of the surfactant film. A new fluorescence technique was used to measure the extent of PDMS spreading. Initial results suggest a correlation between the spreading distance and antifoaming performance. An antifoam mechanism is proposed that features antifoam spreading as a direct contributor to bubble film rupture and incorporates surfactant type and concentration, surfactant packing d., and antifoam oil film spreading pressure as factors contributing to antifoam efficacy.

CC 46-5 (Surface Active Agents and Detergents)
 IT 57-09-0, n-Hexadecyltrimethylammonium bromide 112-53-8, 1-Dodecanol 151-21-3, SDS, properties 1119-94-4, n-Dodecyltrimethylammonium bromide 1119-97-7, n-Tetradecyltrimethylammonium bromide 2082-84-0, n-Decyltrimethylammonium bromide 2083-68-3, n-Octyltrimethylammonium bromide 3055-95-6, 3,6,9,12,15-Pentaoxaheptacosan-1-ol 9002-93-1, Triton X-100 9016-00-6, Poly(dimethylsiloxane)
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (correlation of poly(dimethylsiloxane)-based antifoam performance with spreading and surfactant monolayer packing)
 IT 3055-95-6, 3,6,9,12,15-Pentaoxaheptacosan-1-ol
 RL: PEP (Physical, engineering or chemical process); PRP (Properties); PROC (Process)
 (correlation of poly(dimethylsiloxane)-based antifoam performance with spreading and surfactant monolayer packing)
 RN 3055-95-6 HCAPLUS
 CN 3,6,9,12,15-Pentaoxaheptacosan-1-ol (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 1-B



RE.CNT 42 THERE ARE 42 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 9 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 2000:553271 HCAPLUS

DN 133:165726
 TI Process for the production of an aerosol composition
 IN Grit, Mustafa
 PA Goldwell G.m.b.H., Germany
 SO Eur. Pat. Appl., 8 pp.
 CODEN: EPXXDW
 DT Patent
 LA German
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|---|------|----------|-----------------|--------------|
| PI | EP 1026220 | A1 | 20000809 | EP 1999-124334 | 19991206 <-- |
| | R: AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT, IE, SI, LT, LV, FI, RO | | | | |

PRAI DE 1999-19903997 A 19990202 <--

AB CO2-based aerosol forming compns. comprising ≥ 5 weight% water, an acid (e.g., citric acid) and a solid constituent (e.g., powder or tablet) are added to a spray top-actuated pressure container, forming an aerosol by a simple process in which the solid constituent comprising an alkali metal or alkaline earth carbonate and/or bicarbonate dissolves and reacts with the acid in the closed container, releasing CO2. The acid may be added to the mixture as a powder. The process can be used for production of sprays and foams for cosmetic products as well as household cleaners.

IC ICM C09K003-30

CC 48-3 (Unit Operations and Processes)

Section cross-reference(s): 46, 62

ST aerosol compn prodn spray can; carbon dioxide aerosol prodn spray can; cosmetic foam spray aerosol prodn; cleaner foam spray aerosol prodn

IT Aerosols

Cleaning solvents

Detergents

Foams

Propellants (sprays and foams)

Shampoos

(process for production of aerosol composition)

IT 124-38-9, Carbon dioxide, processes

RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)

(process for production of aerosol composition)

IT 63-42-3, Lactose 64-17-5, Ethanol, processes 77-92-9, Citric acid, processes 87-69-4, Tartaric acid, processes 112-03-8, Stearyltrimethylammonium chloride 112-85-6, Behenic acid 144-55-8, Sodium hydrogen carbonate, processes 151-21-3, Sodium lauryl sulfate, processes 497-19-8, Sodium carbonate, processes 584-08-7, Potassium carbonate 622-08-2, 2-Benzoyloxyethanol 9004-82-4, Polyethylene glycol lauryl ether sulfate, sodium salt 9014-92-0, Polyethylene glycol laurylphenyl ether 26183-44-8, Polyethylene glycol lauryl ether sulfate 56090-54-1, Triglycerin 58846-77-8, Decylglucoside 97338-06-2, Tetranyl C040 98984-78-2, Monosodium N-lauryl L-glutamate

RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)

(process for production of aerosol composition)

IT 124-38-9, Carbon dioxide, processes

RL: FMU (Formation, unclassified); PEP (Physical, engineering or chemical process); FORM (Formation, nonpreparative); PROC (Process)

(process for production of aerosol composition)

RN 124-38-9 HCAPLUS

CN Carbon dioxide (8CI, 9CI) (CA INDEX NAME)

O=C=O

IT 622-08-2, 2-Benzylloxyethanol
 RL: NUU (Other use, unclassified); PEP (Physical, engineering or chemical process); PROC (Process); USES (Uses)
 (process for production of aerosol composition)
 RN 622-08-2 HCAPLUS
 CN Ethanol, 2-(phenylmethoxy)- (9CI) (CA INDEX NAME)

HO-CH₂-CH₂-O-CH₂-Ph

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 10 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 2000:302100 HCAPLUS

DN 132:325835

TI O/W emulsion containing liquid crystal-forming emulsifiers and their manufacture

IN Makita, Riwako; Matsubara, Masahiko; Umesawa, Hiroaki; Takayama, Kentaro

PA Lion Corp., Japan

SO Jpn. Kokai Tokkyo Koho, 12 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|--------------|-----------------|--------------|
| PI | JP 2000128733 | A2 | 20000509 | JP 1998-302408 | 19981023 <-- |
| PRAI | JP 1998-302408 | | 19981023 <-- | | |

AB The O/W emulsion, used as textile-finishing agents, cosmetics, health products, detergents, food, etc., comprises (a) oily components, (b) liquid crystal-forming emulsifiers, and (c) an aqueous phase, and shows total amts. of (a) and (b) 25-70% of the emulsion, viscosity at 25° 3-80 Pa·s, and average particle size ≤0.1 μm. The emulsion is manufactured by emulsifying a preemulsified product with a high pressure homogenizer to increase the viscosity ≥10 times. The preemulsified product may be prepared by adding polyhydric alc. into the oily phase to disperse the oily phase in the alc., adding the aqueous phase to the dispersion, and then mixing the composition to induce phase inversion. The method provides a viscous emulsion without using thickening agents such as polymers. Olive squalane 30, decaglyceryl monostearate 10, concentrated glycerin 10, propylparaben 0.6, dipropylene glycol 10, methylparaben 0.2, and H₂O to 100% was made into an O/W emulsion by the method described above using a microfluidizer at 100 MPa. The high-pressure treatment increased the viscosity of a preemulsified product from 80 to 7400 mPa·s (25°). The O/W emulsion was easily dispersed when diluted with H₂O. The emulsion was stored at 50° for 1 mo or at room temperature for 6 mo to show no change in the appearance.

IC ICM A61K007-00

ICS A61K009-107; B01F017-18; B01J013-00

CC 62-4 (Essential Oils and Cosmetics)

Section cross-reference(s): 17, 46, 63, 66

IT 56-81-5, Glycerin, biological studies 107-21-1, Ethylene glycol, biological studies 107-88-0, 1,3-Butylene glycol 25265-71-8,

Dipropylene glycol 79777-30-3, Decaglyceryl monostearate 102033-55-6,
Decaglyceryl diisostearate 133738-23-5, Decaglyceryl monoisostearate
148000-42-4

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)

(manufacture of O/W emulsion with high viscosity using liquid crystal-forming
emulsifiers)

IT 25265-71-8, Dipropylene glycol

RL: BUU (Biological use, unclassified); BIOL (Biological study); USES
(Uses)

(manufacture of O/W emulsion with high viscosity using liquid crystal-forming
emulsifiers)

RN 25265-71-8 HCAPLUS

CN Propanol, oxybis- (9CI) (CA INDEX NAME)

HO-CH₂-CH₂-O-CH₂-CH₂-OH

2 (D1-Me)

L83 ANSWER 11 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:795932 HCAPLUS

DN 132:37287

TI Non-aqueous, liquid detergent compositions containing gasified particulate
matter for cleaning and bleaching of fabrics

IN Parry, Diane

PA The Procter & Gamble Company, USA

SO PCT Int. Appl., 39 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---|------|----------|-----------------|--------------|
| PI WO 9964556 | A1 | 19991216 | WO 1999-IB996 | 19990601 <-- |
| W: BR, CA, CN, IN, JP, MX, US | | | | |
| RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |

PRAI US 1998-88170P P 19980605 <--

AB These title comps. comprise gasified particles that are solid at room
temperature, highly water-soluble, and essentially insol. in the nonaq. liquid
detergent comps., providing enhanced product dissoln. and aesthetics in
the form of colored speckles and/or fragrances, and as an example a core
substance incorporating NaHCO₃ and perfume. Preferably these nonaq. liquid
detergent comps. addnl. comprise a peroxygen bleaching agent and an organic
detergent builder, dispersed in a liquid phase preferably structured with a
surfactant. An example detergent contained sodium dodecylbenzenesulfonate
powder structurant 16, alc. ethoxylate surfactant 22, solvent blend 19, Na
citrate dihydrate 3, bleach activator 5.9, Na₂CO₃ 9, acrylic-maleic
copolymer 3, polyethylene glycol solid containing N (g) particle 0.4, EDDS 1,
cellulase 0.12, amylase 0.4, quaternary ammonium compound 1:25, Na perborate
15, thickener 0.4, suds suppressor 0.04, perfume 0.5, TiO₂ 0.5, brightener
0.2, and sulfate 2.31%.

IC ICM C11D017-00

ICS C11D003-00

CC 46-5 (Surface Active Agents and Detergents)

IT Air
(pressurized; non-aqueous, liquid detergent dispersions containing gasified particulate matter releasing)

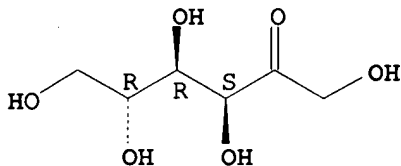
IT 50-99-7, Glucose, uses 57-48-7, Fructose, uses 57-50-1, Sucrose, uses 59-23-4, Galactose, uses 63-42-3, Lactose 69-79-4, Maltose 9002-89-5, Poly(vinyl alcohol) 25322-68-3, Polyethylene glycol
RL: TEM (Technical or engineered material use); USES (Uses)
(gasified core particulate; non-aqueous, liquid detergent dispersions containing gasified particulate)

IT 124-38-9, Carbon dioxide, uses 1333-74-0, Hydrogen, uses 7440-01-9, Neon, uses 7440-37-1, Argon, uses 7440-59-7, Helium, uses 7727-37-9, Nitrogen, uses 7782-44-7, Oxygen, uses 7782-50-5, Chlorine, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pressurized; non-aqueous, liquid detergent dispersions containing gasified particulate matter releasing)

IT 57-48-7, Fructose, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(gasified core particulate; non-aqueous, liquid detergent dispersions containing gasified particulate)

RN 57-48-7 HCAPLUS
CN D-Fructose (9CI) (CA INDEX NAME)

Absolute stereochemistry.



IT 124-38-9, Carbon dioxide, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(pressurized; non-aqueous, liquid detergent dispersions containing gasified particulate matter releasing)

RN 124-38-9 HCAPLUS
CN Carbon dioxide (8CI, 9CI) (CA INDEX NAME)

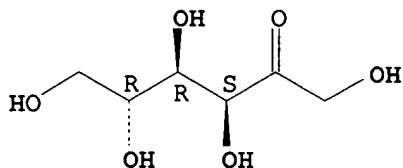
O=C=O

RE.CNT 5 THERE ARE 5 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 12 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1999:795931 HCAPLUS
DN 132:37286
TI Granular, powder, and tablet detergent compositions containing gasified particulate matter for cleaning and bleaching of fabrics, hard surfaces, and dish ware
IN Parry, Diane
PA The Procter & Gamble Company, USA
SO PCT Int. Appl., 47 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|--------------|-----------------|--------------|
| PI | WO 9964555 | A1 | 19991216 | WO 1999-IB994 | 19990601 <-- |
| | W: AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM RW: GH, GM, KE, LS, MW, SD, SL, SZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG | | | | |
| | AU 9939497 | A1 | 19991230 | AU 1999-39497 | 19990601 <-- |
| PRAI | US 1998-88177P | P | 19980605 <-- | | |
| | WO 1999-IB994 | W | 19990601 <-- | | |
| AB | The title detergent contains .apprx.1-55% deterative surfactant and .apprx.0.05-5% gasified particles that are solid at .apprx.25° and highly water-soluble, as an example polyethylene glycol encapsulating pressurized N (g). Preferably these detergent comps. addnl. comprise a peroxygen bleaching agent, an organic detergent builder, etc. dispersed in a liquid phase preferably structured with a surfactant. | | | | |
| IC | ICM C11D017-00 ICS C11D003-00 | | | | |
| CC | 46-5 (Surface Active Agents and Detergents) | | | | |
| IT | Air (pressurized; detergent dispersions containing gasified particulate matter releasing) | | | | |
| IT | 50-99-7, Glucose, uses 57-48-7, Fructose, uses 57-50-1, Sucrose, uses 59-23-4, Galactose, uses 63-42-3, Lactose 69-79-4, Maltose 9002-89-5, Poly(vinyl alcohol) 25322-68-3, Polyethylene glycol RL: TEM (Technical or engineered material use); USES (Uses) (gasified core particulate; detergent dispersions containing gasified particulate) | | | | |
| IT | 124-38-9, Carbon dioxide, uses 1333-74-0, Hydrogen, uses 7440-01-9, Neon, uses 7440-37-1, Argon, uses 7440-59-7, Helium, uses 7727-37-9, Nitrogen, uses 7782-44-7, Oxygen, uses 7782-50-5, Chlorine, uses RL: TEM (Technical or engineered material use); USES (Uses) (pressurized; detergent dispersions containing gasified particulate matter releasing) | | | | |
| IT | 57-48-7, Fructose, uses RL: TEM (Technical or engineered material use); USES (Uses) (gasified core particulate; detergent dispersions containing gasified particulate) | | | | |
| RN | 57-48-7 HCAPLUS | | | | |
| CN | D-Fructose (9CI) (CA INDEX NAME) | | | | |

Absolute stereochemistry.



IT 124-38-9, Carbon dioxide, uses
 RL: TEM (Technical or engineered material use); USES (Uses)
 (pressurized; detergent dispersions containing gasified

particulate matter releasing)

RN 124-38-9 HCAPLUS

CN Carbon dioxide (8CI, 9CI) (CA INDEX NAME)

O=C=O

RE.CNT 7 THERE ARE 7 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 13 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1999:571801 HCAPLUS

DN 131:186609

TI Aerosol hard surface cleaner with enhanced bathroom soil removal

IN Chang, Jennifer; Ochomogo, Maria G.; Scott, Wayne B.; Robbins, Michael H.

PA The Clorox Company, USA

SO U.S., 10 pp., Cont.-in-part of U.S. 5,814,591.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 8

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | US 5948742 | A | 19990907 | US 1998-59538 | 19980413 <-- |
| | US 5814591 | A | 19980929 | US 1996-632041 | 19960412 <-- |
| | US 5972876 | A | 19991026 | US 1996-731653 | 19961017 <-- |
| | US 5948741 | A | 19990907 | US 1997-827546 | 19970328 <-- |
| | CA 2328247 | AA | 19991021 | CA 1999-2328247 | 19990409 <-- |
| | WO 9953009 | A1 | 19991021 | WO 1999-US7913 | 19990409 <-- |
| | W: AU, BR, CA, CN, JP, KR, MX, PL, RU | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | AU 9935536 | A1 | 19991101 | AU 1999-35536 | 19990409 <-- |
| | AU 768598 | B2 | 20031218 | | |
| | EP 1071737 | A1 | 20010131 | EP 1999-917404 | 19990409 <-- |
| | R: DE, ES, FR, GB, IT | | | | |
| | JP 2002511522 | T2 | 20020416 | JP 2000-543557 | 19990409 <-- |
| PRAI | US 1996-632041 | A2 | 19960412 | <-- | |
| | US 1996-731653 | A | 19961017 | <-- | |
| | US 1997-827546 | A2 | 19970328 | <-- | |
| | US 1998-59538 | A | 19980413 | <-- | |
| | WO 1999-US7913 | W | 19990409 | <-- | |

AB An aerosol cleaning composition for hard surfaces is provided with a surprisingly enhanced bathroom soil removal capability. The dispensable includes: (a) an anionic, nonionic, amphoteric surfactant, and mixts. thereof with optionally, a quaternary ammonium surfactant, the total amount of said surfactant being present in a cleaning effective amount; (b) at least one water-soluble or dispersible organic solvent having a vapor pressure of at least 0.001 mm Hg at 25° C., said at least one organic solvent present in a solubilizing--or dispersion--effective amount; (c) a chelating agent selected from the group consisting of tri- or tetrapotassium ethylenediamine-tetraacetate (potassium EDTA), tri- or tetraammonium ethylenediamine-tetraacetate (ammonium EDTA) and mixts. thereof, said chelating agent present in an amount effective to enhance bathroom soil removal in said composition; (d) an effective amount of a propellant; and (e) the remainder, water. The preferred nonionic surfactant is an alkyl polyglycoside which provides a formulation stable to containment within a tin-plated steel can and which also facilitates processing of the composition

IC ICM C11D001-835
INCL 510191000
CC 46-6 (Surface Active Agents and Detergents)
ST aerosol hard surface cleaner; potassium ethylenediamine
tetraacetate surface cleaner; ammonium ethylenediamine
tetraacetate surface cleaner
IT Chelating agents
(aerosol hard surface cleaner with enhanced bathroom soil
removal)
IT Glycosides
RL: TEM (Technical or engineered material use); USES (Uses)
(alkyl polyglycosides; aerosol hard surface cleaner with
enhanced bathroom soil removal)
IT Surfactants
(glycosides or quaternary ammonium compds.; aerosol hard surface
cleaner with enhanced bathroom soil removal)
IT Detergents
(hard surface; aerosol hard surface cleaner with enhanced
bathroom soil removal)
IT Quaternary ammonium compounds, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(surfactant; aerosol hard surface cleaner with enhanced
bathroom soil removal)
IT 112-34-5, Butyl Carbitol
RL: NUU (Other use, unclassified); USES (Uses)
(aerosol hard surface cleaner with enhanced bathroom soil
removal)
IT 5964-35-2, Tetrapotassium ethylenediamine-tetraacetate 15934-01-7
17572-97-3 22473-78-5, Tetraammonium ethylenediamine-tetraacetate
RL: TEM (Technical or engineered material use); USES (Uses)
(aerosol hard surface cleaner with enhanced bathroom soil
removal)
IT 112-34-5, Butyl Carbitol
RL: NUU (Other use, unclassified); USES (Uses)
(aerosol hard surface cleaner with enhanced bathroom soil
removal)
RN 112-34-5 HCAPLUS
CN Ethanol, 2-(2-butoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-O-CH₂-CH₂-OH

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 14 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:806738 HCAPLUS
DN 130:53994
TI Hard-surface aqueous cleaner with reduced amount of residue
IN Cable, Elizabeth A.; Garabedian, Aram, Jr.
PA The Clorox Co., USA
SO PCT Int. Appl., 20 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|----|------------|------|----------|-----------------|--------------|
| PI | WO 9855570 | A1 | 19981210 | WO 1998-US11274 | 19980602 <-- |

W: AU, BR, CA, CN, JP, KR, MX, PL, RU

RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL,
PT, SE

| | | | | |
|------------|----|----------|-----------------|--------------|
| US 6399553 | B1 | 20020604 | US 1997-869854 | 19970605 <-- |
| CA 2294215 | AA | 19981210 | CA 1998-2294215 | 19980602 <-- |
| AU 9877181 | A1 | 19981221 | AU 1998-77181 | 19980602 <-- |
| AU 734298 | B2 | 20010607 | | |
| EP 986626 | A1 | 20000322 | EP 1998-925169 | 19980602 <-- |
| EP 986626 | B1 | 20040128 | | |

R: DE, ES, FR, GB, IT

| | | | | |
|------------|----|----------|----------------|--------------|
| ES 2213282 | T3 | 20040816 | ES 1998-925169 | 19980602 <-- |
|------------|----|----------|----------------|--------------|

PRAI US 1997-869854 A 19970605 <--
WO 1998-US11274 W 19980602 <--

AB A title **cleaner** with significantly improved residue removal and reduced filming/streaking comprises (a) ≥ 1 organic **solvent** with a vapor **pressure** of ≥ 0.001 mm Hg at 25°, and mixts. of such solvents, (b) ≥ 1 anionic surfactants, (c) a buffering system which comprises an N-containing buffer which will result in a pH > 6.5 , e.g., $H_2NCO_2NH_4$, and (d) H_2O . A typical **cleaner** contained Me_2CHOH , $BuOCH_2CH_2OH$, Na octanesulfonate, decylated disodium oxydibenzene sulfonate, dodecylpyrrolidone, $H_2NCO_2NH_4$, fragrance, NH_4OH and dye in H_2O .

IC ICM C11D001-83
ICS C11D003-43; C11D003-44

CC 46-6 (Surface Active Agents and Detergents)

ST hard surface **cleaner** isopropanol butyl glycol; octanesulfonate isopropanol butyl glycol hard surface **cleaner**; dodecylpyrrolidone hard surface **cleaner**; decyldiphenyl oxide disulfonate hard surface **cleaner**; ammonium carbamate buffer hard surface **cleaner**

IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aliphatic, solvents; reduced-residue, aqueous, hard-surface **cleaner** containing organic solvents and surfactants and buffers)

IT Surfactants
(anionic; reduced-residue, aqueous, hard-surface **cleaner** containing organic solvents and surfactants and buffers)

IT Glycols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethers, solvents; reduced-residue, aqueous, hard-surface **cleaner** containing organic solvents and surfactants and buffers)

IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(glycol, solvents; reduced-residue, aqueous, hard-surface **cleaner** containing organic solvents and surfactants and buffers)

IT Solvents
(organic; reduced-residue, aqueous, hard-surface **cleaner** containing organic solvents and surfactants and buffers)

IT Buffers

Detergents
(reduced-residue, aqueous, hard-surface **cleaner** containing organic solvents and surfactants and buffers)

IT 1111-78-0, Ammonium carbamate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses)
(reduced-residue, aqueous, hard-surface **cleaner** containing organic solvents and surfactants and buffers)

IT 67-63-0, Isopropanol, uses 111-76-2, Ethylene glycol monobutyl ether 151-21-3, Sodium laurylsulfate, uses 2687-96-9, Surfadone LP 300 29387-86-8, Propylene glycol monobutyl ether 58318-10-8, Dowfax 3B2

80763-10-6, Propylene glycol tert-butyl ether 143478-87-9, BioTerge PAS
 8S
 RL: TEM (Technical or engineered material use); USES (Uses)
 (reduced-residue, aqueous, hard-surface **cleaner** containing organic
 solvents and surfactants and buffers)
 IT 111-76-2, Ethylene glycol monobutyl ether
 RL: TEM (Technical or engineered material use); USES (Uses)
 (reduced-residue, aqueous, hard-surface **cleaner** containing organic
 solvents and surfactants and buffers)
 RN 111-76-2 HCAPLUS
 CN: Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

RE.CNT 3 THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
 ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 15 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1998:806737 HCAPLUS
 DN 130:53993
 TI Hard-surface aqueous **cleaner** with reduced amount of residues
 IN Cable, Elizabeth A.
 PA The Clorox Co., USA
 SO PCT Int. Appl., 24 pp.
 CODEN: PIXXD2
 DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE. |
|------|--|------|----------|-----------------|--------------|
| PI | WO 9855569 | A1 | 19981210 | WO 1998-US11272 | 19980602 <-- |
| | W: AU, BR, CA, CN, JP, KR, MX, PL, RU | | | | |
| | RW: AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 6432897 | B1 | 20020813 | US 1997-870093 | 19970605 <-- |
| | CA 2294209 | AA | 19981210 | CA 1998-2294209 | 19980602 <-- |
| | AU 9877180 | A1 | 19981221 | AU 1998-77180 | 19980602 <-- |
| | AU 748915 | B2 | 20020613 | | |
| | EP 986625 | A1 | 20000322 | EP 1998-925167 | 19980602 <-- |
| | EP 986625 | B1 | 20040211 | | |
| | R: DE, ES, FR, GB, IT | | | | |
| | ES 2215303 | T3 | 20041001 | ES 1998-925167 | 19980602 <-- |
| PRAI | US 1997-870093 | A | 19970605 | <-- | |
| | WO 1998-US11272 | W | 19980602 | <-- | |
| AB | A title cleaner with significantly improved residue removal and reduced filming/streaking comprises (a) ≥1 organic solvent with a vapor pressure of ≥0.001 mm Hg at 25°, and mixts. of such solvents, (b) ≥1 anionic surfactant or a mixture of anionic and nonionic surfactants, (c) a buffering system which comprises an N-containing buffer which will result in a pH >6.5, e.g., H ₂ NCO ₂ NH ₄ , and (d) H ₂ O. A typical cleaner contained Me ₂ CHOH, BuOCH ₂ CH ₂ OH, decylated disodium oxydibenzene sulfonate, dodecylpyrrolidone, ethoxylated (5-7 EO) C ₁₁ -15 alcs., ethoxylated (6 EO) trimethylnonyl alc., cocoamidopropyltrimethylamine oxide, H ₂ NCO ₂ NH ₄ , fragrance, NH ₄ OH and dye in H ₂ O. | | | | |
| IC | ICM C11D001-83 | | | | |
| | ICS C11D003-43; C11D003-44 | | | | |
| CC | 46-6 (Surface Active Agents and Detergents) | | | | |

ST hard surface cleaner isopropanol butyl glycol; ethoxylated fatty
alc isopropanol butyl glycol hard surface cleaner;
dodecylpyrrolidone hard surface cleaner; decyldiphenyl oxide
disulfonate hard surface cleaner; cocoamidopropyldimethylamine
oxide hard surface cleaner; ammonium carbamate buffer hard
surface cleaner

IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(C11-15, ethoxylated; reduced-residue, aqueous, hard-surface
cleaner containing organic solvents and surfactants and buffers)

IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(aliphatic, solvents; reduced-residue, aqueous, hard-surface cleaner
containing organic solvents and surfactants and buffers)

IT Surfactants
(anionic; reduced-residue, aqueous, hard-surface cleaner containing
organic solvents and surfactants and buffers)

IT Amides, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coco, N-[3-(dimethylamino)propyl], N-oxides; reduced-residue, aqueous,
hard-surface cleaner containing organic solvents and surfactants and
buffers)

IT Glycols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethers, solvents; reduced-residue, aqueous, hard-surface cleaner
containing organic solvents and surfactants and buffers)

IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(glycol, solvents; reduced-residue, aqueous, hard-surface cleaner
containing organic solvents and surfactants and buffers)

IT Surfactants
(nonionic; reduced-residue, aqueous, hard-surface cleaner containing
organic solvents and surfactants and buffers)

IT Solvents
(organic; reduced-residue, aqueous, hard-surface cleaner containing organic
solvents and surfactants and buffers)

IT Buffers
(pH >6.5; reduced-residue, aqueous, hard-surface cleaner containing
organic solvents and surfactants and buffers)

IT Surfactants
(reduced-residue, aqueous, hard-surface cleaner containing organic
solvents and surfactants and buffers)

IT 1111-78-0, Ammonium carbamate
RL: TEM (Technical or engineered material use); USES (Uses)
(buffer; reduced-residue, aqueous, hard-surface cleaner containing
organic solvents and surfactants and buffers)

IT 67-63-0, Isopropanol, uses 111-76-2, Ethylene glycol monobutyl
ether 151-21-3, Sodium laurylsulfate, uses 2687-96-9, Surfadone LP 300
29387-86-8, Propylene glycol monobutyl ether 58318-10-8, Dowfax 3B2
60828-78-6, Polyethylene glycol trimethylnonyl ether 80763-10-6,
Propylene glycol tert-butyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(reduced-residue, aqueous, hard-surface cleaner containing organic
solvents and surfactants and buffers)

IT 111-76-2, Ethylene glycol monobutyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(reduced-residue, aqueous, hard-surface cleaner containing organic
solvents and surfactants and buffers)

RN 111-76-2 HCAPLUS

CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

RE.CNT 2 THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 16 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1998:684934 HCAPLUS
DN 129:277715
TI Aerosol hard surface cleaner with enhanced soil removal
IN Ochomogo, Maria; Brandtjen, Teresa; Mills, Scott C.; Julian, Jennifer C.;
Robbins, Michael H.
PA The Clorox Co., USA
SO PCT Int. Appl., 26 pp.
CODEN: PIXXD2
DT Patent
LA English
FAN.CNT 8

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | WO 9844080 | A1 | 19981008 | WO 1998-US5224 | 19980316 <-- |
| | W: AU, BR, CA, JP, KR, PL | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 5948741 | A | 19990907 | US 1997-827546 | 19970328 <-- |
| | CA 2291223 | AA | 19981008 | CA 1998-2291223 | 19980316 <-- |
| | AU 9864695 | A1 | 19981022 | AU 1998-64695 | 19980316 <-- |
| | AU 760853 | B2 | 20030522 | | |
| | EP 1015535 | A1 | 20000705 | EP 1998-910456 | 19980316 <-- |
| | R: DE, ES, FR, GB, IT | | | | |
| PRAI | US 1997-827546 | A | 19970328 | <-- | |
| | US 1996-632041 | A1 | 19960412 | <-- | |
| | US 1996-731653 | A2 | 19961017 | <-- | |
| | WO 1998-US5224 | W | 19980316 | <-- | |

AB An aerosol dispensable cleaning composition for hard surfaces is provided. An aerosol dispensable cleaning composition for hard surfaces includes: (a) an anionic, nonionic, amphoteric surfactant, and mixts. thereof with optionally, a quaternary ammonium surfactant, the total amount of said surfactant being present in a cleaning effective amount; (b) at least one water-soluble or dispersible organic solvent having a vapor pressure of at least 0.001 mmHg at 25°, the at least one organic solvent present in a solubilizing - or dispersion - effective amount; (c) a chelating agent selected from the group consisting of tetrapotassium ethylenediaminetetraacetate (potassium EDTA), tetraammonium ethylenediaminetetraacetate (ammonium EDTA), and mixts. thereof, the chelating agent present in an amount effective to enhance soil removal in the composition; (d) an effective amount of a propellant; and (e) the remainder, water. The forming action of the aerosol composition facilitates the dispersement of the cleaning components.

IC ICM C11D001-12
ICS C11D001-14; C11D001-28; C11D001-62; C11D001-72; C11D001-75
CC 46-6 (Surface Active Agents and Detergents)
ST tetrapotassium ethylenediaminetetraacetate aerosol cleaner hard surface; tetraammonium ethylenediaminetetraacetate aerosol cleaner hard surface
IT Amine oxides
RL: TEM (Technical or engineered material use); USES (Uses)
(C12-16-alkyldimethyl; aerosol hard surface cleaner with enhanced soil removal)

IT Detergents
(aerosol hard surface cleaner with enhanced soil removal)

IT Surfactants
(amphoteric; aerosol hard surface cleaner with enhanced soil removal)

IT Surfactants
(anionic; aerosol hard surface cleaner with enhanced soil removal)

IT Surfactants
(nonionic; aerosol hard surface cleaner with enhanced soil removal)

IT 64-02-8, Tetrasodium ethylenediaminetetraacetate 5964-35-2,
Tetrapotassium ethylenediaminetetraacetate 22473-78-5, Tetraammonium
ethylenediaminetetraacetate
RL: MOA (Modifier or additive use); TEM (Technical or engineered material
use); USES (Uses)
(aerosol hard surface cleaner with enhanced soil removal)

IT 111-76-2, Ethylene glycol monobutyl ether 9036-19-5, Ethoxylated
octylphenol 55963-06-9, BTC 2125M
RL: TEM (Technical or engineered material use); USES (Uses)
(aerosol hard surface cleaner with enhanced soil removal)

IT 111-76-2, Ethylene glycol monobutyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(aerosol hard surface cleaner with enhanced soil removal)

RN 111-76-2 HCAPLUS

CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 17 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:653538 HCAPLUS

DN 129:262043

TI Reduced residue hard surface cleaner

IN Garabedian, Aram, Jr.; Mills, Scott C.; Sibert, William P.; Choy, Clement
K.

PA The Clorox Company, USA

SO U.S., 9 pp., Cont.-in-part of U.S. 5523024.
CODEN: USXXAM

DT Patent

LA English

FAN.CNT 6

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | US 5817615 | A | 19981006 | US 1996-657075 | 19960603 <-- |
| | US 5252245 | A | 19931012 | US 1992-832275 | 19920207 <-- |
| | US 5468423 | A | 19951121 | US 1993-134348 | 19931008 <-- |
| | US 5585342 | A | 19961217 | US 1995-410470 | 19950324 <-- |
| | US 5523024 | A | 19960604 | US 1995-518384 | 19950823 <-- |
| PRAI | US 1992-832275 | A2 | 19920207 | <-- | |
| | US 1993-134348 | A2 | 19931008 | <-- | |
| | US 1995-410470 | A2 | 19950324 | <-- | |
| | US 1995-518384 | A2 | 19950823 | <-- | |
| OS | MARPAT 129:262043 | | | | |
| AB | The invention provides an aqueous, hard surface cleaner with significantly improved residue removal and substantially reduced | | | | |

filming/streaking, and comprises: (a) an effective amount of at least one organic solvent with a vapor pressure of at least 0.001 mm Hg at 25° C., and mixts. of such solvents; (b) an effective amount of at least one specified semi-polar amine oxide nonionic surfactant; (c) an effective amount of a buffering system which comprises a nitrogenous buffer which will result in a pH of greater than 6.5; and (d) the remainder as substantially all water.

IC ICM C11D001-75
ICS C11D003-44; C11D007-12

INCL 510503000

CC 46-6 (Surface Active Agents and Detergents)

ST reduced residue hard surface cleaner; amine oxide hard surface cleaner; buffer hard surface cleaner

IT Alcohols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(aliphatic, solvent; reduced residue hard surface cleaner)

IT Amine oxides
RL: TEM (Technical or engineered material use); USES (Uses)
(cocoalkyldimethyl; reduced residue hard surface cleaner)

IT Glycols, uses
RL: NUU (Other use, unclassified); USES (Uses)
(ethers, solvent; reduced residue hard surface cleaner)

IT Ethers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(glycol, solvent; reduced residue hard surface cleaner)

IT Detergents
(hard surface; reduced residue hard surface cleaner)

IT Surfactants
(nonionic; reduced residue hard surface cleaner)

IT Solvents
(organic; reduced residue hard surface cleaner)

IT Buffers
(reduced residue hard surface cleaner)

IT Amine oxides
RL: TEM (Technical or engineered material use); USES (Uses)
(reduced residue hard surface cleaner)

IT 141-43-5, Monoethanolamine, uses 506-87-6, Ammonium carbonate
1066-33-7, Ammonium bicarbonate 1336-21-6, Ammonium hydroxide
RL: NUU (Other use, unclassified); USES (Uses)
(buffer; reduced residue hard surface cleaner)

IT 1643-20-5, Lauryldimethylamine Oxide
RL: TEM (Technical or engineered material use); USES (Uses)
(reduced residue hard surface cleaner)

IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol,
uses 71-23-8, n-Propanol, uses 111-76-2, Ethylene glycol
monobutyl ether 2807-30-9, Ethylene glycol monopropyl ether
25917-35-5, Hexanol 29387-86-8, Propylene glycol monobutyl ether
30136-13-1, Propylene glycol monopropyl ether 30899-19-5, Pentanol
35296-72-1, Butanol 80763-10-6, Propylene glycol tert-butyl ether
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; reduced residue hard surface cleaner)

IT 111-76-2, Ethylene glycol monobutyl ether 2807-30-9,
Ethylene glycol monopropyl ether
RL: NUU (Other use, unclassified); USES (Uses)
(solvent; reduced residue hard surface cleaner)

RN 111-76-2 HCAPLUS

CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

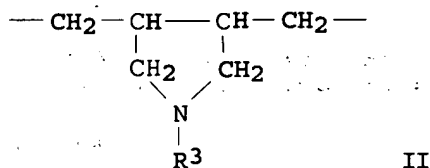
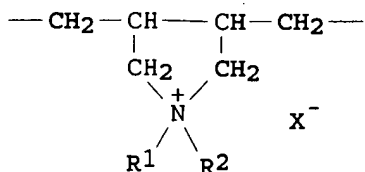
RN 2807-30-9 HCAPLUS
CN Ethanol, 2-propoxy- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

n-PrO-CH₂-CH₂-OH

RE.CNT 81 THERE ARE 81 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 18 OF 46 HCAPLUS: COPYRIGHT 2006 ACS on STN
AN 1998:334795 HCAPLUS
DN 129:68956
TI Aqueous ink-jet ink compositions and printing method therewith
IN Kitamura, Kazuhiko
PA Seiko Epson Corp., Japan
SO Jpn. Kokai Tokkyo Koho, 16 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | JP 10140061 | A2 | 19980526 | JP 1996-302224 | 19961113 <-- |
| PRAI | JP 1996-302224 | | 19961113 | <-- | |
| GI | | | | | |



AB Title comps., with good smudge and water resistance, contain alkali-soluble colorants, cationic resins having I or II units [R¹-R³ = H, C₁-3 (hydroxy) alkyl; X = (in)organic anion], and organic solvents having a vapor pressure smaller than that of water. An aqueous ink containing C.I. acid yellow 23, diallyldimethylamine hydrochloride homopolymer, triethylene glycol mono-Me ether, and N-methyl-2-pyrrolidinone showed good storage stability at 60° for 1 wk and clogging, smudge, and water resistance.

IC ICM C09D011-00
ICS C09D011-10

CC 42-12 (Coatings, Inks, and Related Products)

IT 26062-79-3DP, Diallyldimethylammonium chloride homopolymer, sodium hydroxide-treated derivs. 26062-79-3P, Diallyldimethylammonium chloride homopolymer 26063-69-4DP, Diallylamine hydrochloride homopolymer, sodium hydroxide-treated derivs. 26063-69-4P, Diallylamine hydrochloride homopolymer 29566-78-7DP, Diallylmethylamine hydrochloride homopolymer, sodium hydroxide-treated derivs.

RL: IMF (Industrial manufacture); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(aqueous ink-jet inks containing cationic resins and alkali-soluble colorants with storage stability)

IT 56-81-5, Glycerol, uses 57-55-6, Propylene glycol, uses 96-48-0,

γ -Butyrolactone 112-34-5, Diethylene glycol monobutyl

ether 112-35-6, Triethylene glycol monomethyl ether 616-45-5,

2-Pyrrolidinone 872-50-4, N-Methyl-2-pyrrolidinone, uses

RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)

(aqueous ink-jet inks containing cationic resins and alkali-soluble colorants with storage stability)

IT 112-34-5, Diethylene glycol monobutyl ether 112-35-6,

Triethylene glycol monomethyl ether

RL: NUU (Other use, unclassified); PRP (Properties); USES (Uses)

(aqueous ink-jet inks containing cationic resins and alkali-soluble colorants with storage stability)

RN 112-34-5 HCAPLUS

CN Ethanol, 2-(2-butoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-O-CH₂-CH₂-OH

RN 112-35-6 HCAPLUS

CN Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

HO-CH₂-CH₂-O-CH₂-CH₂-O-CH₂-CH₂-OMe

L83 ANSWER 19 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1998:251239 HCAPLUS

DN 128:258759

TI Low odor, hard surface cleaner with enhanced soil removal

IN Robbins, Michael; Julian, Jennifer C.

PA Clorox Company, USA

SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent

LA English

FAN.CNT 8

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | WO 9816606 | A1 | 19980423 | WO 1997-US17459 | 19970930 <-- |
| | W: AU, BR, CA, CN, JP, KR, MX, PL, RU | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | US 5972876 | A | 19991026 | US 1996-731653 | 19961017 <-- |
| | CA 2263505 | AA | 19980423 | CA 1997-2263505 | 19970930 <-- |
| | AU 9746012 | A1 | 19980511 | AU 1997-46012 | 19970930 <-- |
| | AU 743187 | B2 | 20020117 | | |
| | BR 9711202 | A | 19990817 | BR 1997-11202 | 19970930 <-- |
| | EP 937125 | A1 | 19990825 | EP 1997-944543 | 19970930 <-- |
| | R: DE, ES, FR, GB, IT | | | | |
| | JP 2001502373 | T2 | 20010220 | JP 1998-518377 | 19970930 <-- |
| | KR 2000049238 | A | 20000725 | KR 1999-703342 | 19990416 <-- |
| | US 6214784 | B1 | 20010410 | US 1999-427156 | 19991025 <-- |
| PRAI | US 1996-731653 | A | 19961017 | <-- | |
| | WO 1997-US17459 | W | 19970930 | <-- | |

AB An aqueous hard surface **cleaner** comprises (a) either an anionic, nonionic, amphoteric surfactant, and mixts. with optionally, a quaternary ammonium surfactant; (b) ≥ 1 water-soluble or dispersible organic **solvent** having a vapor pressure ≥ 0.001 mm Hg at 25°; (c) tetrapotassium ethylenediamine tetraacetate (potassium EDTA) as a chelating agent; and (d) the remainder, H₂O.

IC ICM C11D001-94
ICS C11D003-04; C11D003-43

CC 46-6 (Surface Active Agents and Detergents)

ST potassium EDTA chelating agent **cleaning** compn; surfactant chelating agent **cleaning** compn; soap scum removal bathroom **cleaning** compn

IT Buildings
(bathrooms, **cleaning** of; low odor, hard surface **cleaner** with enhanced soap scum removal by potassium EDTA)

IT Glycols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(ethers, solvent; low odor, hard surface **cleaner** with enhanced soap scum removal by potassium EDTA)

IT Ethers, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(glycol; solvent; low odor, hard surface **cleaner** with enhanced soap scum removal by potassium EDTA)

IT Chelating agents
Detergents
(low odor, hard surface **cleaner** with enhanced soap scum removal by potassium EDTA)

IT 5964-35-2, Tetrapotassium EDTA
RL: MOA (Modifier or additive use); USES (Uses)
(low odor, hard surface **cleaner** with enhanced soap scum removal by potassium EDTA)

IT 112-34-5, Butyl carbitol
RL: TEM (Technical or engineered material use); USES (Uses)
(solvent; low odor, hard surface **cleaner** with enhanced soap scum removal by potassium EDTA)

IT 112-34-5, Butyl carbitol
RL: TEM (Technical or engineered material use); USES (Uses)
(solvent; low odor, hard surface **cleaner** with enhanced soap scum removal by potassium EDTA)

RN 112-34-5 HCAPLUS

CN Ethanol, 2-(2-butoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-O-CH₂-CH₂-OH

RE.CNT 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD
ALL CITATIONS AVAILABLE IN THE RE FORMAT

L83 ANSWER 20 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1997:740359 HCAPLUS
DN 128:4923
TI **Cleaning dyed fabrics**
IN Siklosi, Michael Peter; Hortel, Thomas Charles; Holt, John Henry; Wise, Rodney Mahlon; Lawyer, John Virgil; Greene, Cathy Lynne; Wiedemann, Donna Jane; Joyce, Jonathan Livingston
PA Procter & Gamble Company, USA; Siklosi, Michael Peter; Hortel, Thomas Charles; Holt, John Henry; Wise, Rodney Mahlon; Lawyer, John Virgil; Greene, Cathy Lynne; Wiedemann, Donna Jane; Joyce, Jonathan Livingston
SO PCT Int. Appl., 34 pp.

CODEN: PIXXD2

DT Patent
 LA English
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | WO 9741292 | A1 | 19971106 | WO 1997-US6998 | 19970428 <-- |
| | W: BR, CA, CN, JP, MX, US | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| PRAI | US 1996-16686P | P | 19960502 | <-- | |
| AB | <p>Fabrics are cleaned and refreshed in an in-home process with little or no dye transfer by means of cleaning compns. which contain dye fixatives. The compns. for cleaning the fabrics contain a solvent such as propoxypropoxypropanol, a dye fixative, water, and optionally, a surfactant. Stains may be removed from the fabrics by treatment with the above compns. under pressure, and the entire fabric may be dry-cleaned and refreshed by pretreatment with these compns. under pressure and then tumbled in a hot-air dryer in a bag. The fabrics are deodorized by including a sheet impregnated by a releasable composition containing water, surfactant such as Tween 20, and perfume in the bag during the tumbling in the hot-air dryer.</p> | | | | |
| IC | ICM D06L001-04 | | | | |
| | ICS C11D003-20 | | | | |
| CC | 46-5 (Surface Active Agents and Detergents) | | | | |
| ST | household dry cleaning deodorization dyed fabric | | | | |
| IT | Polyoxyalkylenes, uses | | | | |
| | RL: TEM (Technical or engineered material use); USES (Uses) | | | | |
| | (C12-13 alkyl ethers, surfactant; household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | Alcohols, uses | | | | |
| | RL: TEM (Technical or engineered material use); USES (Uses) | | | | |
| | (C12-13, ethoxylated, surfactant; household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | Dyes | | | | |
| | (fixatives; household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | Deodorization | | | | |
| | Dry cleaning | | | | |
| | (household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | Amines, uses | | | | |
| | RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) | | | | |
| | (polyamines, nonpolymeric, dye fixative; household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | 138069-15-5, Sandofix TP | | | | |
| | RL: MOA (Modifier or additive use); TEM (Technical or engineered material use); USES (Uses) | | | | |
| | (dye fixative; household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | 35075-23-1 124881-34-1 185627-94-5 | | | | |
| | RL: TEM (Technical or engineered material use); USES (Uses) | | | | |
| | (solvent; household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | 25322-68-3D, PEG, C12-13 alkyl ethers | | | | |
| | RL: TEM (Technical or engineered material use); USES (Uses) | | | | |
| | (surfactant; household dry-cleaning and deodorization of dyed fabrics) | | | | |
| IT | 35075-23-1 | | | | |

RL: TEM (Technical or engineered material use); USES (Uses)
(solvent; household dry-cleaning and deodorization of dyed
fabrics)

RN 35075-23-1 HCAPLUS

CN 2-Propanol, 1-(3-propoxypropoxy)- (9CI) (CA INDEX NAME)

OH

Me-CH-CH₂-O-(CH₂)₃-OPr-n

L83 ANSWER 21 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1997:9921 HCAPLUS

DN 126:61922

TI Reduced residue hard surface cleaner

IN Choy, Clement K.; Garabedian, Aram, Jr.; Julian, Jennifer C.; Robinson,
Gary L.

PA The Clorox Company, USA

SO U.S., 8 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 6

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|--------------|
| PI | US 5585342 | A | 19961217 | US 1995-410470 | 19950324 <-- |
| | US 5523024 | A | 19960604 | US 1995-518384 | 19950823 <-- |
| | CA 2216235 | AA | 19961003 | CA 1996-2216235 | 19960226 <-- |
| | WO 9630473 | A1 | 19961003 | WO 1996-US2518 | 19960226 <-- |
| | W: AU, BR, CA, JP, KR, MX, PL, RU | | | | |
| | RW: AT, BE, CH, DE, DK, ES, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE | | | | |
| | AU 9650274 | A1 | 19961016 | AU 1996-50274 | 19960226 <-- |
| | EP 815189 | A1 | 19980107 | EP 1996-907111 | 19960226 <-- |
| | R: DE, ES, FR, GB, IT | | | | |
| | BR 9607819 | A | 19980707 | BR 1996-7819 | 19960226 <-- |
| | JP 11502884 | T2 | 19990309 | JP 1996-529383 | 19960226 <-- |
| | US 5817615 | A | 19981006 | US 1996-657075 | 19960603 <-- |
| | US 5714448 | A | 19980203 | US 1996-768246 | 19961216 <-- |
| | US 5851981 | A | 19981222 | US 1997-916893 | 19970822 <-- |
| PRAI | US 1992-832275 | A2 | 19920207 | <-- | |
| | US 1993-134348 | A2 | 19931008 | <-- | |
| | US 1995-410470 | A2 | 19950324 | <-- | |
| | US 1995-518384 | A2 | 19950823 | <-- | |
| | WO 1996-US2518 | W | 19960226 | <-- | |
| | US 1996-768246 | A3 | 19961216 | <-- | |

OS MARPAT 126:61922

AB An aqueous, hard surface cleaner with significantly improved residue removal and substantially reduced filming/streaking comprises: (a) ≥1 organic solvent with a vapor pressure of ≥0.001 mm Hg at 25°, and mixts. of such solvents, (b) ≥1 semi-polar amine oxide nonionic surfactant, (c) 0.01-2% of a buffering system which comprises ammonium or alkaline earth carbamate and (d) the remainder as substantially all water. A composition contained iso-PrOH, propylene glycol tert-Bu ether, Na lauryl sulfate, dodecylpyrrolidone, cocoamidopropylamine oxide, a carbamate buffer, additives, and water.

IC ICM C11D001-75

ICS C11D003-32; C11D003-43

INCL 510433000

CC 46-6 (Surface Active Agents and Detergents)
 ST amine oxide nonionic surfactant cleaner; org solvent
 cleaner; isopropanol solvent cleaner; carbamate buffer
 cleaner
 IT Amine oxides
 RL: TEM (Technical or engineered material use); USES (Uses)
 (cocoamidopropyl; reduced residue hard surface cleaner)
 IT Surfactants
 (nonionic; reduced residue hard surface cleaner)
 IT Solvents
 (organic; reduced residue hard surface cleaner)
 IT Detergents
 (reduced residue hard surface cleaner)
 IT 463-77-4, Carbamic acid, uses 1066-33-7, Ammonium bicarbonate
 1336-21-6, Ammonium hydroxide ((NH₄)(OH))
 RL: MOA (Modifier or additive use); USES (Uses)
 (buffer; reduced residue hard surface cleaner)
 IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol,
 uses 71-23-8, n-Propanol, uses 111-76-2, Ethylene glycol
 monobutyl ether 2807-30-9, Ethylene glycol monopropyl ether
 25917-35-5, Hexanol 29387-86-8, Propylene glycol monobutyl ether
 30136-13-1, Propylene glycol monopropyl ether 30899-19-5, Pentanol
 35296-72-1, Butanol 80763-10-6, Propylene glycol tert-butyl ether
 RL: TEM (Technical or engineered material use); USES (Uses)
 (reduced residue hard surface cleaner)
 IT 111-76-2, Ethylene glycol monobutyl ether 2807-30-9,
 Ethylene glycol monopropyl ether
 RL: TEM (Technical or engineered material use); USES (Uses)
 (reduced residue hard surface cleaner)
 RN 111-76-2 HCAPLUS
 CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

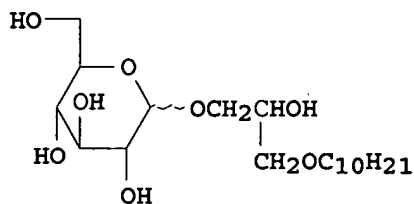
RN 2807-30-9 HCAPLUS
 CN Ethanol, 2-propoxy- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

n-PrO-CH₂-CH₂-OH

L83 ANSWER 22 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1996:605324 HCAPLUS
 DN 125:248317
 TI Preparation of (poly)glyceryl glycoside α -sulfo aliphatic acid
 esters as surfactants
 IN Toda, Haruhiko; Ueda, Shigeyuki; Myake, Hiroshi; Matsuda, Kazuhiko
 PA Lion Corp, Japan
 SO Jpn. Kokai Tokkyo Koho, 11 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|---------------------|------|----------|-----------------|--------------|
| PI JP 08188586 | A2 | 19960723 | JP 1994-340244 | 19941229 <-- |
| PRAI JP 1994-340244 | | 19941229 | <-- | |

GI



II

AB (Poly)glyceryl glycoside α -sulfoalkanoic acid esters
 [(R1O) - (R3O)t]w[Z1(OH)c-w-1] [Z2(OH)f-1-s] [O2CCHR2SO3M]s [I; [Z1(OH)c-w-1]
 = (poly)glycerin residue; [(R1O) - (R3O)t] = aliphatic group chain bonded to
 the (poly)glycerin residue; [Z2(OH)f-1-s] = sugar residue; [O2CCHR2SO3M]s
 = α -sulfo aliphatic acid residue bonded to the latter sugar residue; Z1
 = (poly)glycerin skeleton left after removing HO groups from the
 (poly)glycerin; Z2 = sugar skeleton left after removing HO groups from the
 sugar; c, f = number of HO groups in the (poly)glycerin and sugar, resp.; R1
 = C1-30 aliphatic group chain; R2 = C4-30 aliphatic group chain; R3 = lower
 alkylene; M = H, salt-forming cation; c \geq 3; f \geq 4;
 1 \leq w \leq (c-1); 1 \leq s \leq (f-1); t = 0-20; wherein the

(poly)glycerin and the sugar residue are bonded through O atom to form a
 glycoside] are prepared A **cleaning** composition contains I. These
 compds. are mild to skin and hair and have excellent water solubility and
 resistance to hydrolysis. Above **cleaning** composition has excellent
 anti-hard water property and dispersibility. Thus, 41.0 g Me
 α -sulfo palmitate and 39.4 g decylglyceryl glucopyranoside (II) were
 added to 100 mL DMF, treated with 1.0 g 28% NaOMe in MeOH,
 stirred at 100° and pressure 33 mmHg for 7 h, and after
 distilling off DMF under reduced pressure and adding water, stirred
 with ion exchange resin Dowex 50W-X4, and filtered to give, after
 freeze-drying, II mono(α -sulfo palmitate) Na salt and
 di(α -sulfo palmitate) di-Na salt in 95 and 2%, resp. A dish
 detergent, shampoo, body shampoo, facial cleanser,
 fabric detergent, and tooth paste containing I were formulated.

IC ICM C07H015-04

ICS A61K007-00; A61K007-50; C11D001-26

CC 33-3 (Carbohydrates)

Section cross-reference(s): 46, 62

IT Cosmetics

Detergents

Surfactants

(preparation of (poly)glyceryl glycoside α -sulfo aliphatic acid esters as
 surfactants for **cleaning** agents and cosmetics)

IT Detergents

(**cleaning** compns., preparation of (poly)glyceryl glycoside
 α -sulfo aliphatic acid esters as surfactants for **cleaning**
 agents and cosmetics)

IT 4016-21-1, Methyl α -sulfolaurate sodium salt 4016-24-4, Methyl
 α -sulfo palmitate sodium salt 4062-78-6, Methyl
 α -sulfo stearate sodium salt 181814-91-5 181814-94-8
 181814-95-9 182073-12-7

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of (poly)glyceryl glycoside α -sulfo aliphatic acid esters as
 surfactants for **cleaning** agents and cosmetics)

IT 182149-46-8P 182149-47-9P 182149-48-0P 182149-49-1P 182149-50-4P
 182149-51-5P 182149-52-6P 182179-26-6P

RL: SPN (Synthetic preparation); TEM (Technical or engineered material use); THU (Therapeutic use); BIOL (Biological study); PREP (Preparation);
 USES (Uses)

(preparation of (poly)glyceryl glycoside α -sulfo aliphatic acid esters as surfactants for cleaning agents and cosmetics)

IT 181814-94-8 181814-95-9 182073-12-7

RL: RCT (Reactant); RACT (Reactant or reagent)

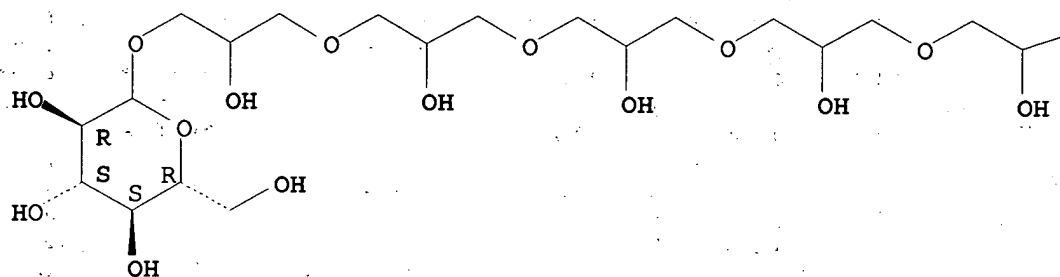
(preparation of (poly)glyceryl glycoside α -sulfo aliphatic acid esters as surfactants for cleaning agents and cosmetics)

RN 181814-94-8 HCAPLUS

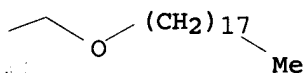
CN 4,8,12,16,20-Pentaoxaoctatriacontane-2,6,10,14,18-pentol,
 1-(β -D-glucopyranosyloxy)-(9CI) (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



PAGE 1-B

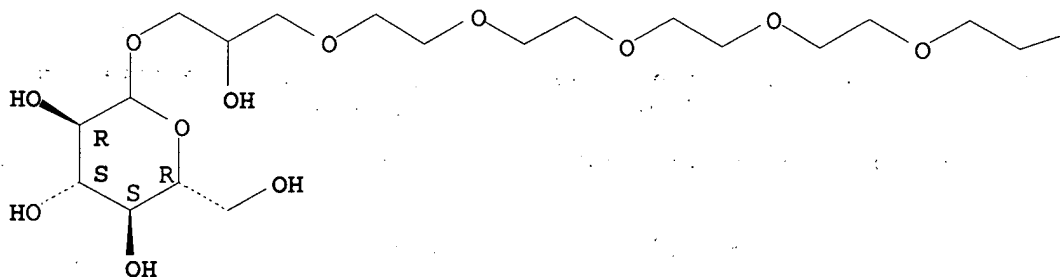


RN 181814-95-9 HCAPLUS

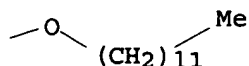
CN D-Glucopyranoside, 2-hydroxy-4,7,10,13,16,19-hexaoxahentriacont-1-yl (9CI)
 (CA INDEX NAME)

Absolute stereochemistry.

PAGE 1-A



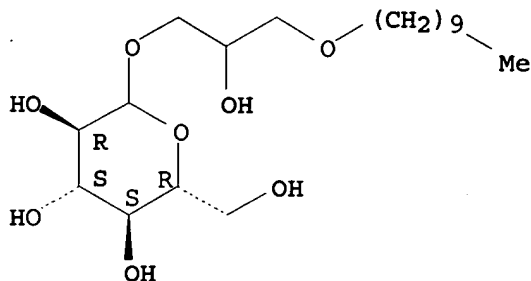
PAGE 1-B



RN 182073-12-7 HCAPLUS

CN D-Glucopyranoside, 3-(decyloxy)-2-hydroxypropyl (9CI) (CA INDEX NAME)

Absolute stereochemistry.



L83 ANSWER 23 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1996:388617 HCAPLUS

DN 125:118120

TI Reduced-residue hard surface cleaner

IN Garabedian, Aram, Jr.; Mills, Scott C.; Sibert, William P.; Choy, Clement K.

PA Clorox Co., USA

SO U.S., 8 pp., Continuation-in-part of U.S. Ser. No. 410, 470.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 6

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|----------|-----------------|--------------|
| PI | US 5523024 | A | 19960604 | US 1995-518384 | 19950823 <-- |
| | US 5252245 | A | 19931012 | US 1992-832275 | 19920207 <-- |
| | US 5468423 | A | 19951121 | US 1993-134348 | 19931008 <-- |
| | US 5585342 | A | 19961217 | US 1995-410470 | 19950324 <-- |
| | US 5817615 | A | 19981006 | US 1996-657075 | 19960603 <-- |
| PRAI | US 1992-832275 | A2 | 19920207 | <-- | |
| | US 1993-134348 | A2 | 19931008 | <-- | |
| | US 1995-410470 | A2 | 19950324 | <-- | |
| | US 1995-518384 | A2 | 19950823 | <-- | |

OS MARPAT 125:118120

AB An aqueous, hard surface cleaner with significantly improved residue removal and substantially reduced filming/streaking comprises (a) an effective amount of ≥ 1 organic solvent with a vapor pressure of ≥ 0.001 mm Hg at 25° and mixts. of such solvents; (b) an effective amount of ≥ 1 semi-polar nonionic surfactant, the surfactant having the structure $R_1R_2R_3N \rightarrow O$, wherein R_1 is C5-20 alkyl, R_2 and R_3 are both C1-4 alkyl, or $(CH_2)_pOH$, although R_2 and R_3 do not have to be equal, and p is 1-6; (c) an effective amount of a buffering system which comprises a nitrogenous buffer which will result in a pH of ≥ 6.5 ; and (d) the remainder as substantially all water.

IC ICM C11D001-66

ICS C11D003-26; C11D003-28; C11D003-43
INCL 252547000
CC 46-6 (Surface Active Agents and Detergents)
ST hard surface **cleaner** reduced residue
IT Buffer substances and systems
(nitrogenous; reduced-residue hard surface **cleaner**)
IT Glass, oxide
RL: MSC (Miscellaneous)
(reduced-residue hard surface **cleaner**)
IT Alcohols, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(reduced-residue hard surface **cleaner**)
IT Amines, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(N-oxides, reduced-residue hard surface **cleaner**)
IT Detergents
(**cleaning** compns., reduced-residue hard surface **cleaner**)
IT Amines, uses
RL: TEM (Technical or engineered material use); USES (Uses)
(coco alkyldimethyl, N-oxides, reduced-residue hard surface **cleaner**)
IT Surfactants
(nonionic, semi-polar; reduced-residue hard surface **cleaner**)
IT 141-43-5, Monoethanolamine, uses 1066-33-7, Ammonium bicarbonate
RL: TEM (Technical or engineered material use); USES (Uses)
(buffer; reduced-residue hard surface **cleaner**)
IT 64-17-5, Ethanol, uses 67-56-1, Methanol, uses 67-63-0, Isopropanol,
uses 71-23-8, n-Propanol, uses 71-36-3, Butanol, uses 71-41-0,
Pentanol, uses 111-27-3, Hexanol, uses 111-76-2, Ethylene
glycol monobutyl ether 2807-30-9, Ethylene glycol monopropyl
ether 29387-86-8, Propylene glycol monobutyl ether 30136-13-1,
Propylene glycol monopropyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(reduced-residue hard surface **cleaner**)
IT 111-76-2, Ethylene glycol monobutyl ether 2807-30-9,
Ethylene glycol monopropyl ether
RL: TEM (Technical or engineered material use); USES (Uses)
(reduced-residue hard surface **cleaner**)
RN 111-76-2 HCAPLUS
CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

RN 2807-30-9 HCAPLUS
CN Ethanol, 2-propoxy- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

n-PrO-CH₂-CH₂-OH

L83 ANSWER 24 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1996:196754 HCAPLUS
DN 124:235620
TI Watermark-free **cleaning** and drying method
IN Ishikawa, Masahiro
PA Olympus Optical Co, Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|--------------|-----------------|--------------|
| PI | JP 07328563 | A2 | 19951219 | JP 1994-155226 | 19940614 <-- |
| PRAI | JP 1994-155226 | | 19940614 <-- | | |

AB The title method comprises wahing a substrate with an aqueous detergent, washing with water, replacing water with a water- and silicone-miscible solvent, and washing and drying with vapor of a silicone solvent under reduced pressure. A cut camera lens was washed with an alkali detergent (EE 1120), showered with water, soaked in isopropanol while under oscillation at 28 kHz and 600 W for 5 min, treated in a silicone vapor, and dried in vacuo.

IC ICM B08B003-08
ICS C23G005-02

CC 46-6 (Surface Active Agents and Detergents)

ST watermark cleaning drying method; silicone solvent cleaning drying

IT Lenses
(camera; watermark-free cleaning and drying method)

IT Cleaning
Drying
(watermark-free cleaning and drying method)

IT Alcohols, uses
Siloxanes and Silicones, uses
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(watermark-free cleaning and drying method)

IT Eye
(lens, glass; watermark-free cleaning and drying method)

IT 12597-69-2, Steel, miscellaneous
RL: MSC (Miscellaneous)
(pipe; watermark-free cleaning and drying method)

IT 67-63-0, Isopropanol, uses 111-77-3, Diethylene glycol monomethyl ether 175069-55-3, EE 1120
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(watermark-free cleaning and drying method)

IT 111-77-3, Diethylene glycol monomethyl ether
RL: PEP (Physical, engineering or chemical process); TEM (Technical or engineered material use); PROC (Process); USES (Uses)
(watermark-free cleaning and drying method)

RN 111-77-3 HCAPLUS

CN Ethanol, 2-(2-methoxyethoxy)-(6CI, 8CI, 9CI) (CA INDEX NAME).

MeO-CH₂-CH₂-O-CH₂-CH₂-OH

L83 ANSWER 25 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1996:130933 HCAPLUS

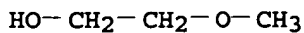
DN 124:149094

TI Method for impregnating wood with preservatives without the needs of pre-drying of wood

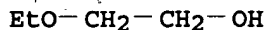
IN Kuwatsuru, Hiroo; Yoshida, Shinji; Igarashi, Rei

PA Takeda Chemical Industries Ltd, Japan
 SO Jpn. Kokai Tokkyo Koho, 8 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

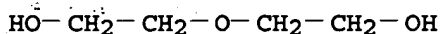
| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|--------------|
| PI | JP 07314409 | A2 | 19951205 | JP 1994-326548 | 19941228 <-- |
| | US 5665432 | A | 19970909 | US 1996-701054 | 19960821 <-- |
| PRAI | JP 1994-59107 | A | 19940329 | <-- | |
| | JP 1994-326548 | A | 19941228 | <-- | |
| | US 1995-412151 | B1 | 19950328 | <-- | |
| AB | In the title method, green wood stock is firstly impregnated with an organic solvent selected from those miscible with water and compatible with wood-preserving agents comprising active components and high-boiling organic solvents, e.g., di-Bu phthalate, followed by impregnated with the agents. Several examples of the organic solvents are alcs. and glycols. | | | | |
| IC | ICM B27K003-50 | | | | |
| | ICS B27K003-02 | | | | |
| CC | 43-2 (Cellulose, Lignin, Paper, and Other Wood Products) | | | | |
| ST | pressure treatment wood compatible solvent; alc solvent wood preservative impregnation; green wood preservative impregnation | | | | |
| IT | 56-81-5, Glycerin, uses 57-55-6, Propylene glycol, uses 64-17-5, Ethanol, uses 67-63-0, Isopropanol, uses 67-64-1, Acetone, uses 71-23-8, Propanol, uses 75-05-8, Acetonitrile, uses 107-21-1, Ethylene glycol, uses 107-88-0, 1,3-Butanediol 109-86-4, Ethylene glycol monomethyl ether 110-63-4, 1,4-Butanediol, uses 110-80-5, Ethylene glycol monoethyl ether 111-29-5, 1,5-Pentanediol 111-46-6, Diethylene glycol, uses 111-76-2, Ethylene glycol monobutyl ether 111-77-3, Diethylene glycol monomethyl ether 111-90-0, Diethylene glycol monoethyl ether 112-27-6, Triethylene glycol 112-34-5, Diethylene glycol monobutyl ether 112-35-6, Triethylene glycol monomethyl ether 112-49-2, Triethylene glycol dimethyl ether 112-50-5, Triethylene glycol monoethyl ether 112-60-7, Tetraethylene glycol 504-63-2, Trimethylene glycol 628-68-2, Diethylene glycol diacetate 2517-43-3, 3-Methoxybutanol 2568-33-4, 3-Methylbutane-1,3-diol 9004-74-4, Polyethylene glycol monomethyl ether 9004-77-7, Polyethylene glycol monobutyl ether 25265-71-8, Dipropylene glycol 25322-68-3, Polyethylene glycol 25322-69-4, Polypropylene glycol 56539-66-3, 3-Methyl-3-methoxybutanol | | | | |
| | RL: NUU (Other use, unclassified); USES (Uses) (in method for impregnating wood with preservatives without needs of drying) | | | | |
| IT | 109-86-4, Ethylene glycol monomethyl ether 110-80-5, Ethylene glycol monoethyl ether 111-46-6, Diethylene glycol, uses 111-76-2, Ethylene glycol monobutyl ether 111-77-3, Diethylene glycol monomethyl ether 111-90-0, Diethylene glycol monoethyl ether 112-27-6, Triethylene glycol 112-34-5, Diethylene glycol monobutyl ether 112-35-6, Triethylene glycol monomethyl ether 112-50-5, Triethylene glycol monoethyl ether 112-60-7, Tetraethylene glycol 25265-71-8, Dipropylene glycol | | | | |
| | RL: NUU (Other use, unclassified); USES (Uses) (in method for impregnating wood with preservatives without needs of drying) | | | | |
| RN | 109-86-4 HCAPLUS | | | | |
| CN | Ethanol, 2-methoxy- (8CI, 9CI) (CA INDEX NAME) | | | | |



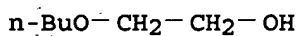
RN 110-80-5 HCAPLUS
CN Ethanol, 2-ethoxy- (8CI, 9CI) (CA INDEX NAME)



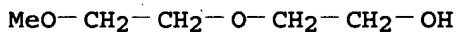
RN 111-46-6 HCAPLUS
CN Ethanol, 2,2'-oxybis- (9CI) (CA INDEX NAME)



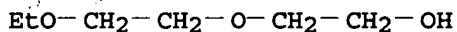
RN 111-76-2 HCAPLUS
CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)



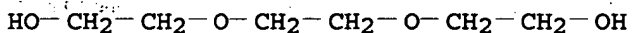
RN 111-77-3 HCAPLUS
CN Ethanol, 2-(2-methoxyethoxy)- (6CI, 8CI, 9CI) (CA INDEX NAME)



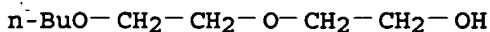
RN 111-90-0 HCAPLUS
CN Ethanol, 2-(2-ethoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)



RN 112-27-6 HCAPLUS
CN Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis- (9CI) (CA INDEX NAME)



RN 112-34-5 HCAPLUS
CN Ethanol, 2-(2-butoxyethoxy)- (8CI, 9CI) (CA INDEX NAME)



RN 112-35-6 HCAPLUS
CN Ethanol, 2-[2-(2-methoxyethoxy)ethoxy]- (6CI, 7CI, 8CI, 9CI) (CA INDEX NAME)

HO-CH₂-CH₂-O-CH₂-CH₂-O-CH₂-CH₂-OMe

RN 112-50-5 HCAPLUS

CN Ethanol, 2-[2-(2-ethoxyethoxy)ethoxy]- (6CI, 7CI, 8CI, 9CI). (CA INDEX NAME)

EtO-CH₂-CH₂-O-CH₂-CH₂-O-CH₂-CH₂-OH

RN 112-60-7 HCAPLUS

CN Ethanol, 2,2'-[oxybis(2,1-ethanediylloxy)]bis- (9CI) (CA INDEX NAME)

HO-CH₂-CH₂-O-CH₂-CH₂-O-CH₂-CH₂-O-CH₂-CH₂-OH

RN 25265-71-8 HCAPLUS

CN Propanol, oxybis- (9CI) (CA INDEX NAME)

HO-CH₂-CH₂-O-CH₂-CH₂-OH

2 (D1-Me)

L83 ANSWER 26 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1988:147386 HCAPLUS

DN 108:147386

TI Flavoring materials for cigarette filters

IN Veluz, Serge

PA Baumgartner Papiers S. A., Fr.

SO Patentschrift (Switz.), 5 pp.

CODEN: SWXXAS

DT Patent

LA German

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--------------|------|--------------|-----------------|--------------|
| PI | CH 662042 | A | 19870915 | CH 1983-3865 | 19830714 <-- |
| PRAI | CH 1983-3865 | | 19830714 <-- | | |

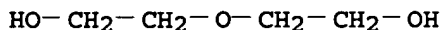
AB Cigarette filter flavoring materials are dissolved in a solvent having ≤ 40 Pa vapor pressure (20°). The solvent depresses the vapor pressure of the flavorant, without affecting, however, flavorant uptake into the moist, hot tobacco smoke passing through the filter. Suitable solvents are 1,3-butylene glycol, 1,2-propylene glycol, diethylene glycol, triethylene glycol, glycerol and polyethylene glycol. Cigarette filters were treated with a mixture of 30% menthol and 70% 1,2-propylene glycol, at 2 mg menthol/filter.

IC ICM A24D003-14

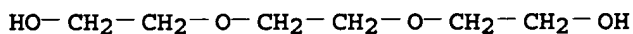
CC 11-7 (Plant Biochemistry)

IT 56-81-5, Glycerol, biological studies 57-55-6, 1,2-Propylene glycol, biological studies 107-88-0, 1,3-Butylene glycol 111-46-6, Diethylene glycol, biological studies 112-27-6, Triethylene glycol 25322-68-3, Polyethylene glycol

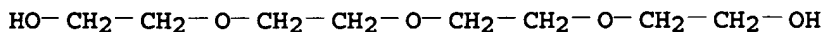
RL: BIOL (Biological study)
(solvent, for cigarette filter flavorants)
IT 111-46-6, Diethylene glycol, biological studies 112-27-6
, Triethylene glycol
RL: BIOL (Biological study)
(solvent, for cigarette filter flavorants)
RN 111-46-6 HCAPLUS
CN Ethanol, 2,2'-oxybis- (9CI) (CA INDEX NAME)



RN 112-27-6 HCAPLUS
CN Ethanol, 2,2'-[1,2-ethanediylbis(oxy)]bis- (9CI) (CA INDEX NAME)



L83 ANSWER 27 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1981:622510 HCAPLUS
DN 95:222510
TI Plant data for Tetra Process
AU Symoniak, M. F.; Ganju, Y. N.; Vidueira, J. A.
CS Union Carbide Corp., Tarrytown, NY, USA
SO Hydrocarbon Processing, International Edition (1981), 60(9),
139-42
CODEN: IHPRBS; ISSN: 0018-8190
DT Journal
LA English
AB The Tetra process for the extraction of C6-8 aroms. from gasoline fractions is
based on the use of aqueous tetraethylene glycol (I) [112-60-7]
solution as a solvent, I being more efficient than diethylene glycol. Plant
data for the Tetra process are presented. The good performance
characteristics of the plant are attributed to the capacity and
selectivity of I; a water-wash scheme for solvent recovery; the
use of an adsorbent-based, above-atmospheric pressure, solvent
regenerator; and the use of liquid-liquid extraction trays.
CC 51-6 (Fossil Fuels, Derivatives, and Related Products)
IT 112-60-7
RL: USES (Uses)
(in extraction of aromatic hydrocarbons from gasoline)
IT 112-60-7
RL: USES (Uses)
(in extraction of aromatic hydrocarbons from gasoline)
RN 112-60-7 HCAPLUS
CN Ethanol, 2,2'-[oxybis(2,1-ethanediylloxy)]bis- (9CI) (CA INDEX NAME)



L83 ANSWER 28 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1980:622035 HCAPLUS
DN 93:222035
TI Modified polybutadiene coating materials
PA Nippon Oil Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 9 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-------------|------|----------|-----------------|--------------|
| PI | JP 55094905 | A2 | 19800718 | JP 1979-972 | 19790111 <-- |
| PRAI | JP 1979-972 | A | 19790111 | <-- | |

AB Polybutadiene (I) having number-average mol. weight 800-104 and >30% 1,2-configuration is treated with maleic anhydride (II), alkanolamines, and compds. having methacryloyl groups and isocyanate groups in that order to give coating materials. Thus, 1000 g I (number-average mol. weight 2020, 60% 1,2-configuration) was treated 5 h with a mixture of II 106.5, antioxidant 2, and xylene 10 g at 195°. The product (1000 g) in 174 g BuOCH₂CH₂OH was treated with 60 g ethanolamine at 80° and stirred 5 h at 150°. The above product (955 g) was treated with a reaction product (5 h at 60°) of 143 g 2-hydroxyethyl methacrylate with 174 g TDI, heated 5 h at 80°, and stripped of solvents under reduced pressure. A composition of the above product 70, styrene 30, 1,1-bis(tert-butylperoxy)-3,5,5-trimethylcyclohexane 2, and 8% Mn naphthenate 1 part was applied to a polished sheet plate and baked 30 min at 140° to give a 28-μ coating having pencil hardness F, Erichsen value ≥9 mm, and impact strength (500 g, 0.5-in.-diameter dart) ≥50 cm.

IC C08F008-32; C08F008-30; C08F299-00; C09D003-80

CC 42-10 (Coatings, Inks, and Related Products)

IT 108-31-6D, reaction products with polybutadiene, ethanolamine, and TDI-hydroxyethyl methacrylate adducts 141-43-5D, reaction products with maleated polybutadiene and TDI-hydroxyethyl methacrylate adducts 868-77-9D, reaction products with maleated polybutadiene, ethanolamine, and TDI 9003-17-2D, maleated, reaction products with ethanolamine and TDI-hydroxyethyl methacrylate adduct 26471-62-5D, reaction products with maleated polybutadiene, ethanolamine, and hydroxyethyl methacrylate

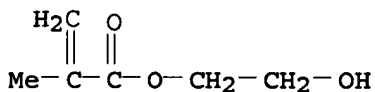
RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, thermosetting)

IT 868-77-9D, reaction products with maleated polybutadiene, ethanolamine, and TDI

RL: TEM (Technical or engineered material use); USES (Uses)
(coatings, thermosetting)

RN 868-77-9 HCAPLUS

CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester (9CI) (CA INDEX NAME)



L83 ANSWER 29 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1979:205924 HCAPLUS

DN 90:205924

TI Coating with nonaqueous compositions

IN Komada, Yoshihiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|--------------|
| PI | JP 54000041 | A2 | 19790105 | JP 1977-65558 | 19770603 <-- |
| | JP 61013869 | B4 | 19860416 | | |
| PRAI | JP 1977-65558 | A | 19770603 | <-- | |

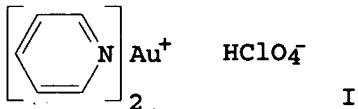
AB Avoidance of air pollution during coating with nonaq. compns. involves use of organic solvent mixts. containing water-miscible solvents with overall vapor pressure <90 mm at 20° and partial pressures of each solvent <35 mm and scrubbing of the vapors formed during coating and baking with water. For example, a composition from nonaq. polymer dispersion 22.9, melamine resin 9.8, Al paste 1, other pigments 2.5, Et3N 0.8, HOCH2CH2OCHMe2 (I) [109-59-1] 15, BuOH [71-36-3] 5, EtOCH2CH2OAc (II) [111-15-9] 10, EtO(CH2CH2O)2Ac (III) [112-15-2] 15, and solvent naphtha 18 parts was spray coated in a 7-m-long booth connected to a 20-m-long setting room at line speed 3 m/min and exhaust rate 640 m3/min and baked in a 60-m-long oven at 160° and exhaust rate 70 m3/min. A portion (50 m3/min) of the exhaust from the spray booth-setting room was fed to the bottom of a 6-m packed scrubber (0.8 m diameter) to which 200 kg/min water (under circulation from a 3-ton reservoir) was fed from the top. After 320 min operation I, BuOH, II, and III contents were 24.2, 11.4, 18.7, and 14.3 ppm, resp., in the exhaust, 3.5, 6.0, 2.2, and 2.0 ppm, resp., in the effluent from the scrubber, and 750, 160, 460, and 780 ppm, resp., in the circulating water. Similar treatment of 50 m3/min of the exhaust from the baking furnace for 180 min gave I, BuOH, II, and III contents 55.4, 25.9, 42.7, and 32.7 ppm, resp., in the untreated exhaust, 8.0, 13.7, 5.0, and 4.4 ppm, resp., in the effluent from the scrubber, and 700, 150, 450, and 750 ppm, resp., in the circulating water.

IC B05D003-10
CC 42-2 (Coatings, Inks, and Related Products)
Section cross-reference(s): 59
IT 71-36-3, uses and miscellaneous 109-59-1 111-15-9 112-15-2
RL: REM (Removal or disposal); PROC (Process)
(removal of, by water scrubbing, from waste gases from coating process)
IT 109-59-1
RL: REM (Removal or disposal); PROC (Process)
(removal of, by water scrubbing, from waste gases from coating process)
RN 109-59-1 HCAPLUS
CN Ethanol, 2-(1-methylethoxy) - (9CI) (CA INDEX NAME)

i-PrO-CH2-CH2-OH

L83 ANSWER 30 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1979:12305 HCAPLUS
DN 90:12305
TI Pharmaceutical compositions for producing antiarthritic activity with bis(pyridine)gold(1+) salts
IN Hill, David T.
PA Smithkline Corp., USA
SO U.S., 3 pp.
CODEN: USXXAM
DT Patent
LA English
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|-----------------|------|----------|-----------------|--------------|
| PI | US 4098887 | A | 19780704 | US 1977-772033 | 19770225 <-- |
| PRAI | US 1977-772033 | A | 19770225 | <-- | |
| OS | MARPAT 90:12305 | | | | |
| GI | | | | | |



AB Bis(pyridine)Au(I) salts are useful in the treatment of rheumatoid arthritis. A solution of 3.1 g thioldiglycol [111-48-8] in 5 mL EtOH was mixed with a solution of 5 g Au acid chloride in 25 mL H₂O. The solution was cooled to 0° and 10 mL pyridine was added. Chloro(pyridine)gold [68348-29-8] obtained was filtered after 15 min stirring and 1.33 g AgClO₄ in 20 mL Me₂CO was added to its solution made by dissolving 2 g in 25 mL each of Me₂CO and pyridine. After stirring for 1.5 h the solution was filtered, solvent removed under reduced pressure, and the residue was boiled in Me₂CO. Filtering and recrystg. from pyridine gave bis(pyridine)gold perchlorate (I) [68348-30-1]. Capsules were prepared containing 3 mg I.

IC A61K031-555

INCL 424245000

CC 63-6 (Pharmaceuticals)

Section cross-reference(s): 27

IT Arthritis

(rheumatoid, bis(pyridine)gold salts in treatment of)

IT 68348-30-1P

RL: PREP (Preparation)

(preparation of, for arthritis treatment)

IT 111-48-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with gold acid chloride)

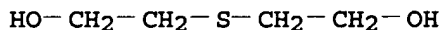
IT 111-48-8

RL: RCT (Reactant); RACT (Reactant or reagent)

(reaction of, with gold acid chloride)

RN 111-48-8 HCAPLUS

CN Ethanol, 2,2'-thiobis- (9CI) (CA INDEX NAME)



L83 ANSWER 31 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1977:489977 HCAPLUS

DN 87:89977

TI Coating solvents-containing air scrubbing

IN Komada, Yoshihiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 6 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|--------------|
| PI | JP 51131549 | A2 | 19761116 | JP 1975-56341 | 19750513 <-- |
| PRAI | JP 1975-56341 | A | 19750513 | <-- | |
| AB | A painting plant air containing coating solvents (total partial pressure ≤ 35 torr) from burning of a water-base paint is scrubbed with water, and the spent water is treated to remove the solvents. For example, a painting process air containing 13.7 solvents and 2.7 ppm ammonia from a paint containing water-soluble polyester resin, water-soluble methylated melamine resin, pigments, ethylene glycol Bu ether [111-76-2], BuOH [71-36-3], NH ₄ OH, and water was scrubbed with water to contain 3.3 ppm solvents in the treated air. The spent water containing 985 solvents and 30.1 ppm ammonia was distilled to contain 93.5 solvents and 0.6 ppm ammonia in the bottom, and the condensed water was reused. | | | | |
| IC | B05D001-00 | | | | |
| CC | 59-2 (Air Pollution and Industrial Hygiene) | | | | |
| | Section cross-reference(s): 42 | | | | |
| IT | Wastewater treatment | | | | |
| | (distillation, of waste gas treatment effluent from paint plant, for reuse) | | | | |
| IT | 71-36-3, uses and miscellaneous 111-76-2 1336-21-6 | | | | |
| | RL: REM (Removal or disposal); PROC (Process) | | | | |
| | (removal of, in waste gases from painting plant) | | | | |
| IT | 111-76-2 | | | | |
| | RL: REM (Removal or disposal); PROC (Process) | | | | |
| | (removal of, in waste gases from painting plant) | | | | |
| RN | 111-76-2 HCAPLUS | | | | |
| CN | Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME) | | | | |

n-BuO-CH₂-CH₂-OH

L83 ANSWER 32 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
AN 1977:472710 HCAPLUS
DN 87:72710
TI Coating solvents-containing air scrubbing
IN Komada, Yoshihiro
PA Kansai Paint Co., Ltd., Japan
SO Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DT Patent
LA Japanese
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---|------|----------|-----------------|--------------|
| PI | JP 51131551 | A2 | 19761116 | JP 1975-56343 | 19750513 <-- |
| PRAI | JP 1975-56343 | A | 19750513 | <-- | |
| AB | A painting plant air containing coating solvents (total partial pressure ≤ 35 torr) from spraying or baking of a water-base paint is scrubbed with water, and the spent water is treated to remove the solvents. Thus, a water soluble-polyester and -methylated melamine resin painting booth air containing 13.7 solvents (BuOH [71-36-3], ethylene glycol Bu ether [111-76-2]) and 2.7% ammonia was scrubbed with water to contain 3.3 and 0.1 ppm, resp., in the treated air. The spent water containing 985 solvents and 30.1 ppm ammonia was treated with activated C to contain 26 and 31.2 ppm, resp., in the treated water, and the water was reused. | | | | |

IC B05D001-00
 CC 59-2 (Air Pollution and Industrial Hygiene)
 Section cross-reference(s): 42
 IT 71-36-3, uses and miscellaneous 111-76-2
 RL: REM (Removal or disposal); PROC (Process)
 (air containing, removal of, from painting process)
 IT 111-76-2
 RL: REM (Removal or disposal); PROC (Process)
 (air containing, removal of, from painting process)
 RN 111-76-2 HCAPLUS
 CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

L83 ANSWER 33 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1977:472707 HCAPLUS

DN 87:72707

TI Coating solvents-containing air scrubbing

IN Komada, Yoshihiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 7 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|--------------|
| PI | JP 51131550 | A2 | 19761116 | JP 1975-56342 | 19750513 <-- |
| PRAI | JP 1975-56342 | A | 19750513 | <-- | |

AB A painting plant air containing coating solvents (total partial pressure ≤ 35 torr) from burning of a water-base paint is scrubbed with water, and the spent scrubbing water is treated to remove the solvents. For example, a paint burning waste gas containing solvents (ethylene glycol Bu ether [111-76-2], BuOH [71-36-3]) 93.3, ammonia 6.1, and HCHO [50-00-0] 5.5 ppm was scrubbed with water in a packed column to contain 19.1, 0.2, and 1.2 ppm, resp., in the treated gas. The spent water containing solvents 4093, ammonia 36, and HCHO 51.3 ppm was distilled to contain 203.3, 0.8, and 47.3, resp., in the bottom, and the condensed water was reused.

IC B05D001-00

CC 59-2 (Air Pollution and Industrial Hygiene)

Section cross-reference(s): 42

IT Wastewater treatment

(distillation, of waste gas treatment effluent from paint plant for reuse)

IT 71-36-3, uses and miscellaneous 111-76-2 7664-41-7, uses and miscellaneous

RL: REM (Removal or disposal); PROC (Process)

(removal of, in waste gases from paint plant)

IT 111-76-2

RL: REM (Removal or disposal); PROC (Process)

(removal of, in waste gases from paint plant)

RN 111-76-2 HCAPLUS

CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

L83 ANSWER 34 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1977:472704 HCAPLUS

DN 87:72704

TI Coating solvents-containing air scrubbing

IN Komada, Yoshihiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 4 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|--------------|
| PI | JP 51131553 | A2 | 19761116 | JP 1975-54712 | 19750512 <-- |
| PRAI | JP 1975-54712 | | 19750512 | <-- | |

AB A painting plant air containing coating solvents (total partial pressure ≤35 torr) from painting or waste gas from water-base paint burning is scrubbed with water to remove the solvents from the air. For example, a waste gas from paint (water-soluble polyester, water-soluble methylated melamine, pigments) burning containing solvents (ethylene glycol Bu ether [111-76-2], BuOH [71-36-3]) 93.3, ammonia 6.1, and HCHO [50-00-0] 5.5 ppm was scrubbed with water in a packed column to contain 19.1, 0.2, and 1.2 ppm, resp. in the treated gas, and the spent water contained 4093, 36, and 51.2 ppm, resp.

IC B05C015-00

CC 59-2 (Air Pollution and Industrial Hygiene)

Section cross-reference(s): 42

IT 50-00-0, uses and miscellaneous 71-36-3, uses and miscellaneous

111-76-2 7664-41-7, uses and miscellaneous

RL: REM (Removal or disposal); PROC (Process)

(removal of, from waste gases from painting plants)

IT 111-76-2

RL: REM (Removal or disposal); PROC (Process)

(removal of, from waste gases from painting plants)

RN 111-76-2 HCAPLUS

CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

n-BuO-CH₂-CH₂-OH

L83 ANSWER 35 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1976:508298 HCAPLUS

DN 85:108298

TI Safe diacyl peroxide solution compositions

IN Mageli, Orville L.; Noller, David C.; McKellin, Wilbur H.

PA Pennwalt Corp., USA

SO U.S., 7 pp.

CODEN: USXXAM

DT Patent

LA English

FAN.CNT 2

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|--|------------|------|------|-----------------|------|
|--|------------|------|------|-----------------|------|

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PI  US 3956396      A      19760511    US 1969-809443      19690321 <--
    BE 678389      A      19660926    BE 1966-678389      19660324 <--
    JP 51041610    B4     19761111    JP 1966-28142       19660504 <--
PRAI US 1965-460528  A2     19650601    <--

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AB A solvent selected from a list of aliphatic hydrocarbons, ketones, esters, ethers, or alcs. was used for preparing safe solns. of [RC(O)O]₂ [R = Me, Et (I), Me₂CH, PrCHMe]; the solvents had vapor pressure substantially the same as that of the peroxide present. Thus, 50% aqueous H₂O₂ was treated with propionic anhydride in light naphtha in the presence of aqueous Na₂CO₃ solution to give a naphtha solution containing 26.4% I; this solution was safe as indicated by pressure vessel, impact sensitivity, heat sensitivity, and evaporation tests. Among other solvents used were heptane, hexyl acetate, diisobutyl ketone, and HOCH₂CH₂OBu. The peroxide solns. prepared are useful as polymerization initiators and crosslinking agents (no data).

IC C07C179-14

INCL 260610000D

CC 23-10 (Aliphatic Compounds)

Section cross-reference(s): 35, 36, 50

IT 108-83-8 111-76-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(safety solvent, for diacyl peroxide)

IT 103-09-3 106-35-4 108-84-9 110-12-3 112-07-2 123-42-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(safety solvent, for diacyl peroxides)

IT 111-76-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(safety solvent, for diacyl peroxide)

RN 111-76-2 HCAPLUS

CN Ethanol, 2-butoxy- (8CI, 9CI) (CA INDEX NAME)

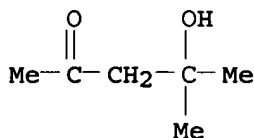
n-BuO-CH₂-CH₂-OH

IT 123-42-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(safety solvent, for diacyl peroxides)

RN 123-42-2 HCAPLUS

CN 2-Pentanone, 4-hydroxy-4-methyl- (8CI, 9CI) (CA INDEX NAME)



L83 ANSWER 36 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1976:166393 HCAPLUS

DN 84:166393

TI Organic solvent removal from waste gases in coating process

IN Kawazu, Shinji; Koda, Yoshihiro

PA Kansai Paint Co., Ltd., Japan

SO Jpn. Kokai Tokkyo Koho, 5 pp.

CODEN: JKXXAF

DT Patent

LA Japanese

FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|--------------|-----------------|--------------|
| PI | JP 50108328 | A2 | 19750826 | JP 1974-12696 | 19740201 <-- |
| PRAI | JP 1974-12696 | | 19740201 <-- | | |

AB Coating solvents giving vapors readily scrubbed by water contained $\leq 10\%$ water-immiscible solvent and water-miscible solvents (solubility $\geq 0.5\%$ at 20°) with vapor pressure ≤ 90 mm Hg at 20° , sum of partial pressure of water-miscible solvents being ≤ 35 mm Hg. For example, a coating composition from butylated amino resin 30, coconut oil-modified alkyd 70, TiO_2 80, xylene [1330-20-7] 3.3, isopropyl alc. [67-63-0] 33.0, butanol [71-36-3] 12.5, 2-butoxyethyl acetate [112-07-2] 1.3, and 2-ethoxyethanol [110-80-5] 15.8 parts was sprayed to give waste gas containing 100 ppm solvent vapors and scrubbed with 700 kg/min water. The scrubbing time for 90% solvent vapor removal was 6 min.

IC C09D; B05D

CC 42-9 (Coatings, Inks, and Related Products)

Section cross-reference(s): 59

ST waste gas treatment coating

IT 67-63-0, uses and miscellaneous 71-36-3, uses and miscellaneous

110-80-5 112-07-2 1330-20-7

RL: REM (Removal or disposal); PROC (Process)

(removal of, from coating waste gases, by water scrubbing)

IT 110-80-5

RL: REM (Removal or disposal); PROC (Process)

(removal of, from coating waste gases, by water scrubbing)

RN 110-80-5 HCAPLUS

CN Ethanol, 2-ethoxy- (8CI, 9CI) (CA INDEX NAME)

 $\text{EtO}-\text{CH}_2-\text{CH}_2-\text{OH}$

L83 ANSWER 37 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1976:30694 HCAPLUS

DN 84:30694

TI Bis (2-hydroxyethyl) terephthalate

IN Taniyama, Osamu

PA Toyobo Co., Ltd., Japan

SO Jpn. Tokkyo Koho, 5 pp.

CODEN: JAXXAD

DT Patent

LA Japanese

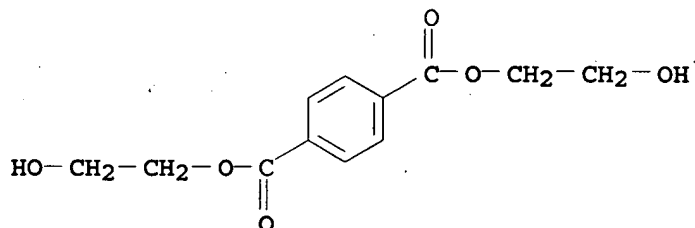
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|----------------|------|--------------|-----------------|--------------|
| PI | JP 50023023 | B4 | 19750805 | JP 1970-124089 | 19701229 <-- |
| PRAI | JP 1970-124089 | A | 19701229 <-- | | |

AB Bis(2-hydroxyethyl)terephthalate (I) was prepared by introducing ethylene oxide (II) and organic solvent vapors through pressure-reducing pipes into an autoclave, reaction with terephthalic acid (III) under pressure, and removing the products under atmospheric pressure or reduced pressure. Thus, III at 30 kg/hr was treated with 3 molar equivalent MeCOEt and 0.01 molar equiv Pr_2NH to form a slurry, to which was introduced 1.8 molar equivalent II and the mixture heated at 130° and 15 kg/cm 2 to give I continuously. An apparatus diagram was given.

IC C07C

CC 25-18 (Noncondensed Aromatic Compounds)
 IT 959-26-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 IT 959-26-2P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)
 RN 959-26-2 HCAPLUS
 CN 1,4-Benzenedicarboxylic acid, bis(2-hydroxyethyl) ester (9CI) (CA INDEX NAME)



L83 ANSWER 38 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1974:460506 HCAPLUS
 DN 81:60506
 TI s-Acyl- β -mercaptoethanol synthesis and its use for albumin determination
 IN Kurooka, Shigeru; Yoshimura, Yoshio; Hosoki, Kanoo
 PA Dainippon Pharmaceutical Co., Ltd.
 SO Jpn. Kokai Tokkyo Koho, 5 pp.
 CODEN: JKXXAF
 DT Patent
 LA Japanese
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|---------------|------|----------|-----------------|--------------|
| PI | JP 49024192 | A2 | 19740304 | JP 1972-63480 | 19720624 <-- |
| PRAI | JP 1972-63480 | A | 19720624 | <-- | |

AB S-Acyl- β -mercaptoethanol was synthesized by reacting thiofatty acids with ethylene oxide and used for the determination of albumins. The concentration of albumins was determined by measuring their catalytic activity for the hydrolysis of S-acyl- β -mercaptoethanol, since the rate of hydrolysis is proportional to the concentration of albumins. Thus, 15 g thiolauroic acid was dissolved in 50 ml anhydrous EtOH and combined with 35 ml anhydrous EtOH containing 15 ml ethylene oxide. The removal of the solvent under reduced pressure and treatment of the residue with petroleum ether yielded S-lauroyl- β -mercaptoethanol.

INCL 113A2; 16B61; 16B602.7

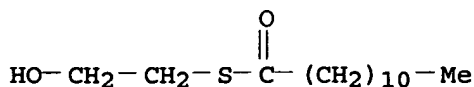
CC 9-6 (Biochemical Methods)

IT 51097-82-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, for albumin anal.)

IT 51097-82-6P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of, for albumin anal.)

RN 51097-82-6 HCAPLUS

CN Dodecanethioic acid, S-(2-hydroxyethyl) ester (9CI) (CA INDEX NAME)



L83 ANSWER 39 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1966:491523 HCAPLUS

DN 65:91523

OREF 65:17156g-h,17157a-c

TI Solvent-resistant pressure-sensitive adhesive

IN Horn, Milton B.; Capone, Vincent P.

PA Catalin Corp. of America

SO 4 pp.

DT Patent

LA Unavailable

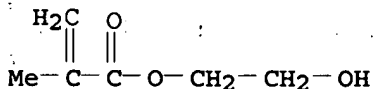
FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|------------|------|----------|-----------------|--------------|
| PI | US 3269994 | | 19660830 | US | 19630930 <-- |
| PRAI | US | | 19630930 | <-- | |

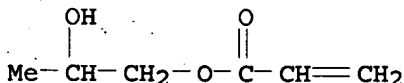
AB A flexible substrate is provided with a tacky pressure-sensitive adhesive coating. The coating is a heat-modified interpolymer of: (1) a monomer containing a single vinyl group of which $\geq 50\%$ is an acrylic ester of a nontertiary C4-20 aliphatic alc. and (2) a monomer of formula $\text{CH}_2:\text{C}(\text{X})\text{COOROH}$, in which X is H or Me and R is a C1-6 alkylene radical. The proportions of (1) and (2) are 70-97:30-3. The proportions are selected to give an interpolymer capable of being a pressure-sensitive adhesive by heat treatment in the absence of curing agents. The interpolymer may also contain 1-15 parts of an alkylated condensation product of HCHO and an aminoplast, such as N',N'',N'''-tris(dimethoxymethyl)melamine per 85-99 parts interpolymer. The interpolymer may be modified by heat treatment at 250-400°F. for 0.5-120 min. The mixture can be polymerized at elevated temps. to form an interpolymer of (1) and (2), which is coated on the flexible substrate. The article is then heated to develop pressure-sensitive adhesivity. For example, an interpolymer was prepared by mixing 200 g. Et acrylate and 206 g. 2-ethylhexyl acrylate with 43 g. β -hydroxyethyl acrylate and 1047 g. Me₂CO. After addition of 2 g. Bz₂O₂, the mixture was refluxed for 6 h. After addition of 2 g. addnl. Bz₂O₂, refluxing was continued for 8 more hrs. After cooling, the liquid had a nonvolatile content of 30.14% by weight and a viscosity of appr. 500 cp. A 1.5-mil clear film of poly(ethylene terephthalate) was coated with the above solution, dried, and cured at 300°F. in an oven. The coating was clear, colorless, tacky, and had the desired pressure-sensitive adhesive properties. When placed in Me₂CO, the interpolymer swelled only slightly after 15 min. It adhered to the substrate and showed no wrinkling. With curing at 125°F., the interpolymer dissolved completely in 1 min. Another pressure-sensitive coating was prepared on poly(ethylene terephthalate) by using 97.5 g. of the above polymer and 2.5 g. N',N'',N'''-tris(dimethoxymethyl)melamine. The coating was cured at 300°F. for 3 min. and tested for adhesion to a number 4 finish stainless-steel plate by a pull test with a 1-in.-wide strip of tape. The samples were immersed in jet-engine fuel for 72 h. prior to the peel test. The plastic strip was peeled off the plate at 180°F. at 12 in./min, and the amount of pull required to maintain this rate of peeling noted. Peeling was clean and showed no signs of splitting. Without the additive, there was some splitting, indicating poor cohesive strength. The 180° pull was 42 oz./in, and there was no sign of edge attack by the jet-engine fuel.

INCL 260086100

- CC 48 (Plastics Technology)
- IT Adhesives
(from acrylic ester, hydroxyalkyl acrylates and aminoplasts, **pressure-sensitive, solvent-resistant**)
- IT 868-77-9, Ethylene glycol, methacrylate 1188-09-6,
1,3-Propanediol, methacrylate
(adhesive compns. from alkyl acrylates, aminoplasts and, **pressure-sensitive solvent-resistant**)
- IT 14235-49-5, Melamine, N2,N4,N6-tris(dimethoxymethyl)-
(adhesive compns. from alkyl acrylates, hydroxyalkyl acrylates and, **pressure-sensitive solvent-resistant**)
- IT 96-33-3, Acrylic acid, methyl ester 141-32-2, Acrylic acid, butyl ester
(adhesive compns. from aminoplasts, hydroxyalkyl acrylate and, **pressure-sensitive solvent-resistant**)
- IT 999-61-1, Acrylic acid, 2-hydroxypropyl ester
(adhesive from alkyl acrylates, aminoplasts and, **pressure-sensitive solvent-resistant**)
- IT 103-11-7, Acrylic acid, 2-ethylhexyl ester
(adhesives compns. from alkyl acrylates, aminoplasts and, **pressure-sensitive solvent-resistant**)
- IT 2761-09-3, Methacrylic acid, hydroxypropyl ester
(adhesives from alkyl acrylates, aminoplasts and, **pressure-sensitive solvent-resistant**)
- IT 9003-20-7, Vinyl acetate polymers
(adhesives from aminoplasts, alkyl acrylates and, **pressure-sensitive solvent-resistant**)
- IT 140-88-5, Acrylic acid, ethyl ester
(adhesives from aminoplasts, hydroxyalkyl acrylate and, **pressure-sensitive solvent-resistant**)
- IT 57-13-6, Urea
(condensation products, isobutylated, adhesive compns. from alkyl acrylates and, **pressure-sensitive solvent-resistant**)
- IT 79-10-7, Acrylic acid
(esters, adhesives from aminoplasts, hydroxyalkyl acrylates and, **pressure-sensitive solvent-resistant**)
- IT 868-77-9, Ethylene glycol, methacrylate
(adhesive compns. from alkyl acrylates, aminoplasts and, **pressure-sensitive solvent-resistant**)
- RN 868-77-9 HCAPLUS
- CN 2-Propenoic acid, 2-methyl-, 2-hydroxyethyl ester (9CI) (CA INDEX NAME)



- IT 999-61-1, Acrylic acid, 2-hydroxypropyl ester
(adhesive from alkyl acrylates, aminoplasts and, **pressure-sensitive solvent-resistant**)
- RN 999-61-1 HCAPLUS
- CN 2-Propenoic acid, 2-hydroxypropyl ester (9CI) (CA INDEX NAME)



L83 ANSWER 40 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1962:410478 HCAPLUS

DN 57:10478

OREF 57:2068f-i,2069a-c

TI Lactonization of 3-hydroxy-3,4,4-trimethylpentanoic acid

AU Burgstahler, Albert W.; Wetmore, David E.

CS Univ. of Kansas, Lawrence

SO Journal of Organic Chemistry (1961), 26, 3516-18

CODEN: JOCEAH; ISSN: 0022-3263

DT Journal

LA Unavailable

OS CASREACT 57:10478

AB Lactonization of 3-hydroxy-3,4,4-trimethylpentanoic acid (I) was proved to give β,β,γ -trimethyl- β -valerolactone by chemical means. A solution of 3.0 g. of the lactone prepared from I by the action of 5% H_2SO_4 (method of Newman and Rocher, CA 38, 45665), in 50 ml. dry Et_2O was added slowly to a well-stirred solution of 1 g. LiAlH_4 in 100 ml. Et_2O . After 10 min., 5 ml. ethyl acetate was added dropwise, and then 5 ml. of saturated aqueous Na_2SO_4 . Anhydrous Na_2SO_4 (20 g.) was added and coagulated solids separated by filtration and washed with Et_2O . Combined Et_2O solns. dried over anhydrous MgSO_4 , evaporated, and the residue distilled gave 1.3 g. viscous oil, b.p. 112-14°. The infrared spectrum showed strong OH absorption at 2.75-2.9 μ . This product (0.6 g.) with 2 g. Na_2CO_3 in 25 ml. H_2O was oxidized with 25 ml. 6% KMnO_4 in H_2O at 20-5° 8 hrs., treated with MeOH , and filtered. After extraction with Et_2O the filtrate was acidified with 6N HCl and reextd. with Et_2O . Evaporation of the latter exts. gave a viscous oil which was dissolved in 50 ml. Et_2O , washed with 5% aqueous Na_2CO_3 , dried over anhydrous Mg_2SO_4 , and evaporated. The residue gave 110 mg. fine prisms, m. 98-100° (benzene-petr. ether). The acid chloride (3.5 g.) of 2,2,3-trimethyl-3-butenic acid [prepared by method of Courtot, Bulletin Society Chim. France, 35,298(1906)] in 15 ml. dry Et_2O was added slowly to 0.075 mole diazomethane in 150 ml. dry Et_2O at 0°. After 24 hrs. at 0° and 12 hrs. at 25° the reaction was completed. Evaporation of solvent under reduced pressure gave an oily diazo ketone which was heated in EtOH with freshly precipitated Ag_2O at 70° 1 hr., and then refluxed 4 hrs. The resulting clear solution decanted, evaporated under reduced pressure, and residue distilled gave 25% the ethyl ester of 3,3,4-trimethyl-4-pentenoic acid, b.p. 200-5°. Hydrolysis with 10% alc. KOH gave 3,3,4-trimethyl-4-pentenoic acid (II) m. 140-40.5° (benzene-petr. ether), characterized as the amide by the thionyl chloride-ammonia procedure. A mixed m.p. of this derivative with the amide, m. 104-1° of the solid isomer of β -tert-butylcrotonic acid (III), m. 84-5°, was depressed to 106-29°. The infrared and ultraviolet absorption spectra were also characteristically different. Treatment of .apprx. 0.3 g. II with 20 ml. 50% H_2SO_4 on a steam bath 1 hr. and isolation of the neutral product by extraction with Et_2O gave 145 mg., m. 99-100° (benzene-petr. ether), and did not depress m.p. of lactone obtained from I. Ethyl 3-hydroxy-2,3,4,4-tetramethylpentanoate (IV), b.p. 62-4°, was obtained in 72% yield by the Reformatskii procedure from pinacolone and ethyl α -bromopropionate. Hydrolysis of IV with 5% aqueous alc. NaOH gave 3-hydroxy-2,3,4,4-tetramethylpentanoic acid (V), m. 108-10° (dilute EtOH), in 81% yield. V (1.0 g.) in 20 ml. benzene was treated with freshly prepared $\text{N,N'$ -diisopropylcarbodiimide at 25° 24 hrs., the precipitate of $\text{N,N'$ -diisopropylurea collected, and the filtrate diluted with petr. ether (40-60°), washed rapidly with cold 5% NaHCO_3 , and dried over anhydrous MgSO_4 . Filtration and concentration under reduced pressure gave $\alpha,\beta,\gamma,\gamma$ -tetramethyl- β -valerolactone (VI), m. 46-7° (petr. ether at -20°),

in 61% yield. VI heated to 110-30° gave CO₂ and an olefin, b₇₃₅ 104-6, n_D 1.4224, λ 12.2 μ (CS)₂.

CC 27 (Aliphatic Compounds)

IT 16466-24-3, Valeric acid, 4-hydroxy-3,3,4-trimethyl-, γ-lactone
90370-81-3, 4-Pentenoic acid, 3,3,4-trimethyl- 90646-82-5, Valeric acid,
3-hydroxy-2,3,4,4-tetramethyl-, β-lactone 90677-45-5, Valeric acid,
3-hydroxy-2,3,4,4-tetramethyl- 91140-25-9, 4-Pentenoic acid,
3,3,4-trimethyl-, ethyl ester 91243-72-0, Valeric acid,
3-hydroxy-2,3,4,4-tetramethyl-, ethyl ester

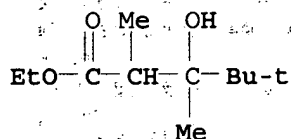
(preparation of)

IT 91243-72-0, Valeric acid, 3-hydroxy-2,3,4,4-tetramethyl-, ethyl ester

(preparation of)

RN 91243-72-0 HCAPLUS

CN Pentanoic acid, 3-hydroxy-2,3,4,4-tetramethyl-, ethyl ester (9CI) (CA INDEX NAME)



L83 ANSWER 41 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1961:64929 HCAPLUS

DN 55:64929

OREF 55:12358e-g

TI Phosphoroamidothioates

IN Brust, Harry F.

PA Dow Chemical Co.

DT Patent

LA Unavailable

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|------|-----------------|------|
|------------|------|------|-----------------|------|

| | | | | |
|---------------|--|----------|----|-----|
| PI US 2971976 | | 19610214 | US | <-- |
|---------------|--|----------|----|-----|

AB A series of ROCH₂CH₂OPSYOX (where R was a low mol. weight alkylphenyl or halophenyl group; X a low mol. weight alkyl or alkenyl group; Y a low mol. weight alkylamino group (low mol. weight = 5 carbons or less) were prepared by treating the corresponding chloride with MOX (M = alkali metal).

Thus, 50 ml. of a MeONa solution was added to O-[2-(2,4,5-trichlorophenoxy)ethyl] N-methylphosphoroamidothioate dispersed in 80 ml. MeOH during 1 hr. at 5-10°, the mixture warmed to room temperature and stirred 16 hrs., NaCl filtered off, and the solvent distilled at reduced pressure to give O-methyl O-[2-(2,4,5-trichlorophenoxy)ethyl] N-methylphosphoroamidothioate, m. 75-6°.

Other analogs were similarly prepared. These compds., soluble in common organic solvents and only somewhat soluble in water, were useful as parasiticides and as the toxic constituent in insecticides.

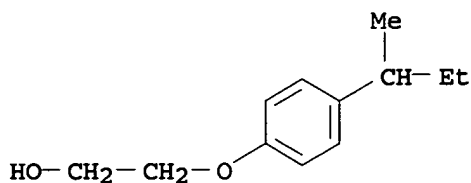
CC 10E (Organic Chemistry: Benzene Derivatives)

IT 5349-63-3, Ethanol, 2-(p-sec-butylphenoxy)-(O-alkyl methylphosphoramidothioates)

IT 5349-63-3, Ethanol, 2-(p-sec-butylphenoxy)-(O-alkyl methylphosphoramidothioates)

RN 5349-63-3 HCAPLUS

CN Ethanol, 2-[4-(1-methylpropyl)phenoxy]- (9CI) (CA INDEX NAME)



L83 ANSWER 42 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1960:7140 HCAPLUS

DN 54:7140

OREF 54:1478c-i,1479a-i,1480a-b

TI Synthesis of some epoxy vinyl monomers by epoxidation with peracetic acid

AU Frostick, Frederick C., Jr.; Phillips, Benjamin; Starcher, Paul S.

CS Union Carbide Chemicals Co., S. Charleston, WV

SO Journal of the American Chemical Society (1959), 81, 3350-6

CODEN: JACSAT; ISSN: 0002-7863

DT Journal

LA Unavailable

OS CASREACT 54:7140

AB A number of epoxy vinyl monomers (I), compds. which contain both a polymerizable double bond and an oxirane ring and usable in making cross-linked resins, were prepared by the AcO2H epoxidn. method. Studies of the rates of epoxidn. of several different double bonds with AcO2H in various solvents were made to show the applicability of selective epoxidn. (All nD at 30°). The following starting unsatd. alc. esters of unsatd. acids were prepared (ester, b.p./mm., nD, % yield given): vinyl 4-pentenoate, 42°/16, 1.4280, 50; vinyl undecylenate, 75-83°/0.08, 1.4450, 60; vinyl oleate, 148-60°/1, 1.4540, 45; vinyl 3-cyclohexenecarboxylate, 74°/10, 1.4678, 63; vinyl 6-methyl-3-cyclohexenecarboxylate, 54°/2.5, 1.4627, 69; allyl crotonate, 83°/5, 1.4416, 88; allyl 4-pentenoate, 41-4°/11, 1.4278, 61; allyl 5-hexenoate, 47°/3, 1.4346, 56; allyl undecylenate, 108-12°/2, 1.4449, 91; allyl oleate, 170°/1, 1.4540, 77; allyl linoleate, 160-2°/0.5, 1.4622, 88; allyl 2-ethyl-2-hexenoate, 86-7°/5, 1.4523, 89; allyl 2-hydroxy-3-butenate, 47-9°/2, 1.4490, 80; allyl 2-hydroxy-3-pentenoate, 77°/4, 1.4562, 55; allyl 3-cyclohexenecarboxylate, 91°/10, 1.4670, 83; allyl 6-methyl-3-cyclohexenecarboxylate, 85°/6, 1.4632, 81; crotyl acrylate, 55°/15, 1.4363, 74; 2-methyl-2-propenyl acrylate, 68°/50, 1.4310, 82; 2-ethyl-2-hexenyl acrylate, 57°/0.8, 1.4475, 37; 2-cyclopentenyl acrylate, 35-7°/3.5, 1.4651, 63; 3-cyclohexen-1-ylmethyl acrylate, 63°/2, 1.4718, 81; 6-methyl-3-cyclohexen-1-ylmethyl acrylate, 72°/2, 1.4705, 87; 2-ethyl-2-propenyl crotonate, 89-90°/40, 1.4451, 65; crotyl crotonate, 85-7°/25, 1.4495, 47; 2-cyclopentenyl crotonate, 73°/7, 1.4739, 31; 6-methyl-3-cyclohexen-1-ylmethyl crotonate, 112°/4, 1.4777, 90. CH2:CMech2Cl (20 moles) added dropwise with stirring during 5 hrs. to 15 moles CH2:CHCH2OH (II) and 17 moles powdered KOH at 50-60°, the mixture allowed to stand 60 hrs. at room temperature, diluted with Et2O, the Et2O solution washed with H2O, and fractionated gave 58% CH2:CMech2OCH2CH:CH2, b255 77-8°, nD 1.4181. Similarly was prepared 79% CH2:CHCH2OCH2CH:CHMe, b300 92-5°, nD 1.4248. Excess II and 3-cyclohexenemethanol with BF3-HgO catalyst gave allyl 3-cyclohexen-1-ylmethyl ether, b4 61°, nD 1.4621. Similarly was prepared 74% allyl 2-cyclopentenyl ether, b53 74°, nD 1.4550.

4-Vinyl-1-cyclohexene b305 96°, nD 1.4606-1.4610. The compound to be epoxidized heated to the appropriate temperature, 23-8% AcO₂H in EtOAc or Me₂CO added dropwise during 1-3 hrs. (large amts. of AcO₂H in contact with active double bonds were especially avoided), the solution stirred and cooled or heated as required to maintain the reaction temperature, the reaction continued until complete (iodimetric analysis), the mixture added dropwise to a still kettle containing PhEt under reflux at 30-50 mm. pressure (during the addition, solvent, AcOH, unreacted AcO₂H, and PhEt were continuously removed at the still-head), and the residual mixture fractionated gave the I. The following I were prepared from diolefins and AcO₂H by selective epoxidn. [reaction temperature, time (hrs.), moles AcO₂H/olefin, compound obtained, b.p./mm., nD, % yield given]: 40-5°, 6, 0.64/0.42, vinyl 4,5-epoxypentanoate, 72-3°/7, 1.4424, 47; 40-60°, 8, 3.74/2.99, vinyl 10,11-epoxyundecanoate, 101°/0.2, 1.4509, 38; 35°, 6.25, 0.78/0.71, vinyl 9,10-epoxystearate, 163-7°/0.07, 1.4539, 57; 30-5°, 13, 2.2/2.57, vinyl 3,4-epoxycyclohexanecarboxylate, 75-6°/1, 1.4741, 84; 25-30°, 8.5, 2.75/2.20, vinyl 3,4-epoxy-6-methylcyclohexanecarboxylate, 99-102°/5, 1.4691, 71; 40-55°, 6, 0.64/0.42, allyl 4,5-epoxypentanoate, 68-9°/1.5, 1.4430, 65; 40-55°, 9, 1.96/1.57, allyl 5,6-epoxyhexanoate, 66-8°/0.3, 1.4450, 56; 40-55°, 7.5, 3.18/2.54, allyl 10,11-epoxyundecanoate, 125-30°/0.5-1.0, 1.4492-1.4507, 72; 35-40°, 7.67, 1.10/1.00, allyl 9,10-epoxystearate, 180-95°/0.5-1.0, 1.4547, 91; 35-40°, 8.25, 3.43/1.37, allyl 9,10,12,13-diepoxyundecanoate, 210°/1, 1.4614, 87; 40-50°, 9, 1.74/5.23, allyl 2,3-epoxy-2-ethylhexanoate, 91°/3, 1.4415, 33; 40°, 17.25, 1.76/1.55, allyl 3,4-epoxy-2-hydroxybutanoate, 82-90°/1, 1.4590-1.4601, 27; 45-50°, 7, 5.05/4.05, allyl 3,4-epoxy-2-hydroxypentanoate, 108-10°/5, 1.4526, 59; 40-5°, 5, 6.11/4.89, allyl 3,4-epoxycyclohexanecarboxylate, 91-5°/2, 1.4709, 78; 40°, 2.5, 0.799/0.639, allyl 3,4-epoxy-6-methylcyclohexanecarboxylate, 122°/6, 1.4671, 86; 30-55°, 21.5, 2.93/2.38, 2,3-epoxybutyl acrylate, 46.5°/2, 1.4381, 33; 40-50°, 9, 2.44/2.32, 2,3-epoxy-2-methylpropyl acrylate, 45°/1.5, 1.4380, 62; 40°, 5, 1.61/1.46, 2,3-epoxy-2-ethylhexyl acrylate, 80°/1.5, 1.4431, 38; 30-50°, 9.5, 2.90/2.30, 2,3-epoxycyclopentyl acrylate, 75-7°/2.5, 1.4659-1.4674, 44; 0-3°, 14, 1.15/1.00, 3,4-epoxycyclohexylmethyl acrylate, 105°/2.4, 1.4470, 40; 30-5°, 8, 2.78/2.22, 3,4-epoxy-6-methylcyclohexylmethyl acrylate, 106-8°/1, 1.4760, 76; 70-5°, 6.75, 4.0/20.0, 2,3-epoxypropyl crotonate, 71°/3, 1.4550, 81; 40-5°, 11, 1.80/1.20, 2,3-epoxy-2-methylpropyl crotonate, 66-8°/2, 1.4490, 72; 50-5°, 12.5, 4.74/3.00, 2,3-epoxybutyl crotonate, 67-78°/1-2, 1.4492, 71; 40°, 14, 0.55/0.46, 2,3-epoxycyclopentyl crotonate, 69°/1.5, 1.4738, 30; 30-5°, 10, 6.25/5.00, 3,4-epoxy-6-methylcyclohexylmethyl crotonate, 116°/1, 1.4804, 84; 70°, less than 1 min., 5.0/20, 3,4-epoxy-1-vinylcyclohexane, 61-3°/15, 1.4660-1.4670, 82; 40-5°, 7, 2.00/8.03, allyl 2,3-epoxy-2-methylpropyl ether, 45-7°/9, 1.4252, 75; 35°, 4, 0.615/0.585, allyl 3,4-epoxycyclohexylmethyl ether, 90-2°/3, 1.4670, 66; 25-30°, 6, 2.0/4.0, allyl 2,3-epoxybutyl ether, 112°/150, 1.4273, 66; 25-8°, 24, 0.83/2.38, allyl 2,3-epoxycyclopentyl ether, 78°/10, 1.4624, 73. The following I were prepared from olefin and AcO₂H by partial epoxidn. [olefin, reaction temperature, time (hrs.), moles AcO₂H/olefin, epoxide, b.p./mm., ND, % yield given]: (CH₂:CHCH₂)₂O (III), 50-5°, 6, 2.42/7.26, allyl glycidyl ether, 74-6°/50, 1.4310, 66; (CH₂:CHCHO₂CCH₂)₂, 50°, 11.5, 1.0/4.0, allyl glycidyl maleate, 138-41°/2.5, 1.4736, 71; CH₂:CHCH:CH₂, 30°, 45, 1.0/1.4,

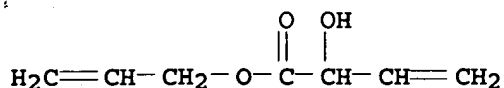
1,2-epoxy-3-butene, b. 68°, 1.4124, 56; CH₂:CMeCH₂CH₂CMe:CH₂, 30-5°, 2.33, 1.0/3.0, 1,2-epoxy-2,5-dimethyl-5-hexene, 92-4°/5 (m. 71-6°), -, 75; ethylene glycol dicrotonate, 75°, 13; 1.1/1.0, ethylene glycol crotonate 2,3-epoxybutyrate, 133-7°/2, 1.4595, 47. The following absolute second-order rates of reaction of several olefins with AcO₂H in EtOAc at 25° were reported [olefin and 106 k (l./mole/sec.) given]: AcOCH:CH₂, <0.1; CH₂:CHCO₂Et, 0.1; MeCH:CHCO₂Et (IV), b. 150°; AcOCH₂CH:CH₂ (V), 0.669; PrCH:CEtCO₂Et (VI), 4.18; III, 5.29; styrene (VII), 34.3; Et 3-cyclohexenecarboxylate (VIII), 123; cyclohexene (IX), 283. The following results were reported for the reaction of AcO₂H in various solvents with several compds. containing double bonds with widely different reactivities toward AcO₂H [olefin, solvent, temperature, 106 k (l./mole/sec.), heat of activation (kcal.), entropy of activation (e.u.) given]: III, EtOAc, 20°, 3.14, -, -; III, EtOAc, 30°, 8.56, 18.0, 22.2; III, EtOAc, 35°, 13.9, -, -; III, EtOAc, 50°, 55.3, -, -; III, C₆H₆, 25°, 38.3, 15.2, 28.1; III, C₆H₆, 35°, 88.6, -, -; V, EtOAc, 24°, 0.585, -, -; V, EtOAc, 30°, 1.35, 24.0, 6.2; V, EtOAc, 45°, 9.10, -, -; V, AcOH, 23°, 2.65, -, -; V, AcOH, 30°, 5.70, 19.5, 18.0; V, AcOH, 45°, 24.3, -, -; IX, EtOAc, 0°, 20.2, -, -; IX, EtOAc, 15°, 104, 16.9, 16.2; IX, EtOAc, 20°, 172, -, -; IX, EtOAc, 25°, 283, -, -; IX, AcOH, 15°, 82.2, -, -; IX, AcOH, 25-8°, 2150, 15.6, 18.6; IX, AcOH, 39.6°, 6740, -, -; IV, EtOAc, 30°, 0.262, -, -; IV, EtOAc, 40°, 0.793, 20.1, 22.0; IV, EtOAc, 60°, 5.27, -, -; VIII, EtOAc, 25°, 123, 16.9, 19.7; VIII, EtOAc, 35°, 313, -, -; VIII, AcOH, 15°, 345, -, -; VIII, C₆H₆, 0°, 115, 14.2, 20.0; VIII, C₆H₆, 15°, 452, -, -; VI, EtOAc, 40°, 19.2, 18.8, 18.5; VI, EtOAc, 60°, 117.5, -, -; VII, EtOAc, 20°, 22.0, -, -; VII, EtOAc, 25°, 34.3, 16.2, 22.6; VII, EtOAc, 30°, 55.3, -, -; VII, EtOAc, 40°, 127, -, -; VII, AcOH, 20.5°, 124, -, -; VII, AcOH, 25°, 186, 13.9, 29.3; VII, AcOH, 25.8°, 188, -, -; VII, AcOH, 40.8°, 574, -, -; VII, C₆H₆, 0°, 26.8, 14.3, 27.0; VII, C₆H₆, 20°, 162, -, -. AcOCH₂CH:CH₂ treated with AcO₂H in EtOAc 5.3 hrs. at 65-70° gave 61% glycidyl acetate, b10 60-60.5°, ND 1.4192. IX and AcO₂H treated 3.5 hrs. at 25-30° gave 75% IX oxide, b50 54-5°, ND 1.4462. IV was converted to 75% Et 2,3-epoxybutyrate, VI to 79% Et 2,3-epoxy-2-ethylhexanoate, VIII to 84% Et 7-oxabicyclo[4.1.0]-3-heptenecarboxylate, b3 85°, ND 1.4568; VII to 60-75% VII oxide, b10 75°, ND 1.5300.

CC 10G (Organic Chemistry: Heterocyclic Compounds)

IT 96-09-3, Benzene, (epoxyethyl)- 100-40-3, Cyclohexene, 4-vinyl-
106-92-3, Propane, 1-(allyloxy)-2,3-epoxy- 108-05-4, Vinyl acetate
286-20-4, 7-Oxabicyclo[4.1.0]heptane 930-22-3, 1-Butene, 3,4-epoxy-
4033-02-7, Ether, allyl 2-methylpropenyl 15359-10-1, 1-Hexene,
5,6-epoxy-2,5-dimethyl- 145719-86-6, Butane, 1-(allyloxy)-2,3-epoxy-
55553-02-1, Propane, 1-(allyloxy)-2,3-epoxy-2-methyl- 58401-78-8, Ether,
allyl 2-butenyl 63163-50-8, Ether, allyl 2-cyclopenten-1-yl
98272-42-5, 3-Butenoic acid, 2-hydroxy-, allyl ester
98558-66-8, 3-Pentenoic acid, 2-hydroxy-, allyl ester
99180-69-5, Ether, allyl 3-cyclohexen-1-ylmethyl 99181-40-5,
7-Oxabicyclo[4.1.0]heptane, 3-[(allyloxy)methyl]- 100052-77-5,
2-Hexenoic acid, 2-ethyl-, allyl ester 100249-25-0, 6-
Oxabicyclo[3.1.0]hexane, 2-(allyloxy)- 105105-80-4, 5-Hexenoic acid,
allyl ester 106196-76-3, Linoleic acid, allyl ester
(preparation of)
IT 98272-42-5, 3-Butenoic acid, 2-hydroxy-, allyl ester
98558-66-8, 3-Pentenoic acid, 2-hydroxy-, allyl ester
(preparation of)

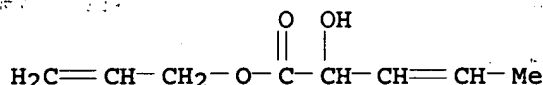
RN 98272-42-5 HCAPLUS

CN 3-Butenoic acid, 2-hydroxy-, allyl ester (6CI) (CA INDEX NAME)



RN 98558-66-8 HCAPLUS

CN 3-Pentenoic acid, 2-hydroxy-, allyl ester (6CI) (CA INDEX NAME)



L83 ANSWER 43 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1956:16282 HCAPLUS

DN 50:16282

OREF 50:3381a-i,3382a-i,3383a

TI Rearrangement of 1,2,5-triols by acids

AU Mondon, Albert

CS Univ. Kiel, Germany

SO Ann. (1954), 585, 43-67

DT Journal

LA Unavailable

OS CASREACT 50:16282

GI For diagram(s), see printed CA Issue.

AB cf. C.A. 47, 1663a. Powdered 1-(1-hydroxycyclohexyl)-4-hydroxy-4-methylpent-2-yne (25 g.) added with strong stirring to an ice-cold solution of 1.25 g. HgSO₄ in 125 cc. 85% HCO₂H during 20 min., stirring and cooling continued 0.5 hr., the mixture filtered, the filtrate poured into saturated (NH₄)₂SO₄, the oil extracted with C₆H₆, the extract washed with NaOH solution and H₂O, the solvent evaporated, the crude crystalline residue (I) dissolved in C₅H₁₂, and the solution passed through a short column of alumina gave 24.9 g. 1-(1-hydroxycyclohexyl)-4-hydroxy-4-methylpentan-3-one (II), m. 65-6°; 2,4-dinitrophenylhydrazones, C₁₈H₂₆N₄O₆, m. 152°, C₁₈H₂₄N₄O₅, m. 134°. Distillation of 38.5 g. I gave 33 g. 5-spirocyclohexyl-2-(α-hydroxyisopropyl)-4,5-dihydrofuran (III), b_{1.5} 103-5°, crystallizing slowly in air to give II. III added 1 mole of H to form the 2,3-dihydro derivative (IV), b_{0.2} 66-8°, n_D²⁰ 1.4703. The residue of distillation of I was a crystalline solid (V), C₂₄H₄₀O₄, m. 181°, formed by loss of 2 moles of H₂O from 2 moles of the hemiketal form of II. Degradation of II with NaBiO₃ yielded Me₂CO and λ-(1-hydroxycyclohexyl)propionic acid lactone. II (5.93 g.) in MeOH with 2 cc. 4N NaOH shaken for 3 hrs. with H and Pt gave 5.22 g. 1-(1-hydroxycyclohexyl)-4-methyl-3,4-dihydroxypentane (VI), m. 116°. Reduction of 6.15 g. II in MeOH containing 1 cc. 10N NaOH with Raney Ni gave 89% of an unstable form of VI, m. 96°, changing to 116° on repeated crystallization from EtOAc-petr. ether. II (40.76 g.) reduced with LiAlH₄ yielded 25.2 g. VI. VI (121 mg.) in 15 cc. absolute CHCl₃ mixed with 248 mg. Pb (OAc)₄ in absolute C₆H₆, allowed to stand 30 min., shaken 3 times with 10-cc. portions of H₂O, the CHCl₃-C₆H₆ dried and evaporated, the residue of thin oil (73 mg.) allowed to crystallize, and the crystals sublimed gave bis{2-[5-(spirocyclohexyl)tetrahydrofuranyl]} ether, m. 89°. VI (5 g.) kept in 12.5 cc. pyridine with 2.5 cc. Ac₂O for 12-15 hrs., and the excess Ac₂O and pyridine distilled off at 12 mm.

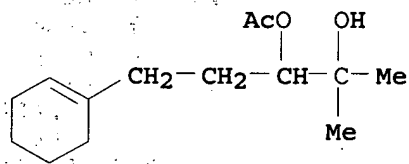
gave 5.75 g. 3-acetate (VII) b0.06 150°, m. 89-91°. VI (5 g.), 5 cc. Ac2O, and 2.5 g. KOAc in 50 cc. glacial HOAc heated overnight at 130°, the solvent evaporated at reduced pressure, and the residue worked up yielded 2.5 g. 1-cyclohexen-1-yl-4-methyl-3-acetoxy-4-hydroxypentane (VIII), b0.4 120°. Saponification of VIII with KOH in MeOH gave the unsatd. glycol, b0.2 112°, which was reduced (H, Pt) to 1-cyclohexyl-4-methyl-3,4-dihydroxypentane (IX), prisms, m. 62°. IX dissolved in 10 cc. ice-cold concentrated H2SO4, poured onto ice after 1 hr. and worked up gave an oil; 2,4-dinitrophenylhydrazone (X), m. 99°. VI kept in 85% H3PO4 for 14 hrs. and worked up gave an impure cyclization product, approx. C12H20O, b12 101-5°. VII (5 g.) kept in 50 cc. 85% H3PO4 at room temperature for 4 hrs., then poured onto 100 g. of ice and worked up gave 4.36 g. VIII. VII (10 g.) kept in 100 cc. 85% H3PO4 at room temperature for 4 hrs., then heated at 80° for 4 hrs., poured onto ice, and worked up gave 7.66 g. of a thin oil, which on repeated distillation gave 2-isopropenyl-5-spirocyclohexyltetrahydrofuran (XI), b14 98-103° (semicarbazone, m. 92-4°), and 2-isopropylidene-5-spirocyclohexyltetrahydrofuran (XII), b14 105-11° [semicarbazone (XIII), m. 99-102°]. XI absorbs 1.14 mole of H, and XI and XII give identical reduction products. XIII (0.8 g.) in a solution of 3 g. Na in 50 cc. alc. autoclaved 14 hrs. at 220°, cooled, diluted with H2O, extracted with Et2O, the Et2O solution washed with H2O, dilute H2SO4, dilute Na2CO3, and H2O, dried, and evaporated and the residue sublimed gave 0.62 g. 1-(1-hydroxycyclohexyl)-3-hydroxy-4-methylpentane (XIV); m. 81°. Freshly distilled XII (139 mg.) in CHCl3 treated with 1 mole BzO2H for 12 hrs., the mixture washed with dilute NaOH and H2O, the CHCl3 evaporated, the residue shaken 12 hrs. with 10 cc. H2O and 3 drops 20% HClO4, the mixture extracted with petr. ether, and the extract washed, dried and evaporated gave V and II. With excess BzO2H XII (198 mg.) used 1.9 atoms O; the crude product shaken overnight with 5 cc. H2O, 1.5 cc. MeOH, and 0.1 cc. 20% HClO4 and worked up gave an oil, b10 130°; 2,4-dinitrophenylhydrazone (XV), C18H22N4O5, red needles, m. 201°. XIV was also derived from treatment of III with excess BzO2H. II (6.2 g.) heated 2 hrs. at 80° with 60 cc. anhydrous HCO2H, the mixt cooled, poured into H2O and extracted with Et2O, and the extract washed neutral, dried, and evaporated gave a viscous oil, b0.25 110°, from which XIV was prepared and purified by chromatography. Powdered VI (10 g.) added during 15 min. with stirring to 100 cc. ice-cold concentrated H2SO4, the solution kept 1 hr. and poured onto 300 g. ice, the oil taken up in Et2O, washed neutral, dried and evaporated gave 7.3 g. of oil, b1 63°; semicarbazone, separated by chromatography on alumina into two fractions (XVI) and (XVII), both m. 96-100°. Acid hydrolysis of XVI and XVII gave two compds., C12H20O, b13 103.5°, nD22 1.4745, and b13 100.5°, nD22 1.4712, resp., each containing approx. 20% 1-(1-hydroxycyclohexyl)-3-oxo-4-methylpentane. Reduction of 1.25 g. each of XVI and XVII with 4.5 g. Na in 75 cc. absolute EtOH gave XIV. Crystalline VI (10 g.) in 100 cc. glacial HOAc heated at 130° for 38 hrs., the cooled mixture poured into 300 cc. H2O and extracted with four 150-cc. portions of C6H6, the combined exts. washed with dilute NaOH and H2O and distilled gave 4.7 g. VIII, b0.08 96-109°, nD19 1.4790, and 5.2 g. of a fraction, b0.08 54-60°, nD19 1.4708, which freed of ketonic material with Girard reagent, yielded 4.5 g. IV. VI (2 g.) heated 10 hrs. in 40 cc. absolute C6H6 with 25 mg. iodine, the solution cooled and washed with dilute NaHSO3 gave 1.4 g. IV. IV (4.1 g.) refluxed 1 hr. in 70 cc. pyridine and 20 cc. POCl3, cooled, and poured onto 350 g. ice and 350 cc. 2N HCl, the oil extracted with Et2O, and the extract washed, dried, and distilled gave 3.18 g. XI. XI (2.9 g.) refluxed 2 hrs. with 0.5 g. MeC6H4SO3H in 50 cc. C6H6 and worked up gave 2.3 g. 1-(1-cyclohexen-1-yl)-4-methylpentan-3-one (XVIII), b12 115-9°, nD20 1.4752; semicarbazone, m. 110°.

λ 227.5 μ m (ϵ 10,200) (MeOH); 2,4-dinitrophenylhydrazone (XIX), m. 91.5°, λ 362.5 μ m (ϵ 18,450) (MeOH). VI (5 g.) in 100 cc. 20% H₂SO₄ stirred strongly at 125° for 2 hrs. and worked up gave 3.8 g. XVIII. XVIII with excess BzO₂H took up 2 atoms O to give an epoxide ester, which on sapon, yielded a 1,2-glycol acid, b₁₀ 120°. XVIII in MeOH took up 1 mole of H to give 1-cyclohexyl-4-methylpentan-3-one, b₁₀ 111°, n_D20 1.4592; 2,4-dinitrophenylhydrazone, identical with X. XIX (0.6 g.), 5 cc. AcCO₂H, 3 cc. glacial HOAc, 3 cc. CHCl₃, 0.6 cc. H₂O, and 0.06 cc. concentrated HCl heated together 15 hrs. at 60°, decanted from the precipitate, diluted with Et₂O, washed with H₂O, dilute NaOH, and H₂O, the solvent evaporated, and the residue crystallized by scratching, then sublimed gave a saturated Me ketone, C₁₅H₂₄O₄, m. 116°, λ 280 μ m (ϵ 25) (hexane); 2,4-dinitrophenylhydrazone, m. 182°. To a solution of 18.6 g. (1-hydroxycyclohexyl)acetylene in 50 cc. absolute Et₂O containing a small amount of CuCl was added slowly 240 cc. 2N EtMgBr solution, the mixture stirred overnight on a water bath, 15 cc. iso-PrCHO in 50 cc. absolute Et₂O added dropwise, stirring continued 6 hrs., and the mixture worked up to give 80% 1-(1-hydroxycyclohexyl)-3-hydroxy-4-methylpent-1-yne (XX), b₁ 118-19°, fine needles, m. 76°. Reduction (Pt, H) of XX gave XIV. XX (5.9 g.) in 10 cc. Me₂CO oxidized with a mixture of 2.6 g. CrO₃, 7.5 cc. H₂O, and 2.2 cc. concentrated H₂SO₄ gave 4 g. 1-(1-hydroxycyclohexyl)-4-methylpent-1-yn-3-one (XXI), b_{0.9} 113-14°, n_D20 1.4922, λ 217.5 μ m (ϵ 4040) (hexane); 2,4-dinitrophenylhydrazone, m. 125°, λ 367.5 μ m (ϵ 9240) (MeOH). XXI (3.31 g.) dissolved in EtOAc took up more than 2 moles of H (Pt) to give 0.71 g. XIV and 2 g. XII. Freshly distilled XII in EtOAc absorbs 1 mole H (Pt). XII (0.7 g.) heated at 120° for 2 hrs. with 10 cc. 20% H₂SO₄ gave 0.5 g. product, b₁₁ 115-16°, n_D19 1.4783; 2,4-dinitrophenylhydrazone, identical with XIX. VII (9.54 g.) in 140 cc. absolute pyridine treated with 40 cc. POCl₃, heated for 1 hr. more and worked up gave 6.6 g. 1-(1-cyclohexen-1-yl)-4-methyl-3-acetoxypent-4-ene (XXII), b₁₂ 136°, n_D22 1.4752, and a small amount of XVIII. Crude XII saponified with MeOH-KOH gave 1-(1-cyclohexen-1-yl)-4-methyl-3-hydroxypent-4-ene (XXIII), b₁₀ 128-31°, n_D22 1.4926. XXIII absorbs 2 moles of H (Pt) to give 1-cyclohexyl-3-hydroxy-4-methylpentane (XXIV), b₁₀ 123°, n_D20 1.4667; phenylurethan, long needles, m. 58-68°. XXIV (0.38 g.) in 1 cc. Me₂CO oxidized with a solution of 160 mg. CrO₃ and 0.22 cc. concentrated H₂SO₄ in 0.75 cc. H₂O gave 0.32 g. fragrant oil; 2,4-dinitrophenylhydrazone, not depressed in m.p. with X. XXIII (5 g.) in 50 cc. absolute C₆H₆ mixed with 3 cc. BF₃-Et₂O and kept 12 hrs. at room temperature, washed neutral with H₂O, dried, and distilled gave 1.6 g. viscous oil (XXV), b₁₀ 132-42°, n_D17 1.4841 [2,4-dinitrophenylhydrazone (XXVI), m. 138°, λ 365 μ m (ϵ 12,600) (MeOH)], a mixture of 3-hydroxy-2-methylspiro[5.5]undec-1-ene (XXVII) and 3-oxo-2-methylspiro[5.5]undecane, separated by Girard reagent. XXV absorbed 0.8 mole of H and XXVI was prepared from the product. Reduction (Pt) and CrO₃ oxidation of XXVII gave a product from which XXVI was prepared.

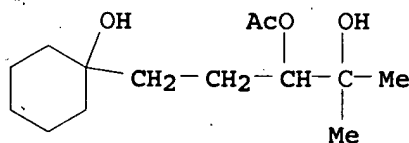
10 (Organic Chemistry)

IT 699-61-6, Cyclohexanepropionic acid, 1-hydroxy-, γ -lactone 40435-64-1, 3-Pentanone, 1-cyclohexyl-4-methyl- 65081-71-2, 1-Pentyn-3-one, 1-(1-hydroxycyclohexyl)-4-methyl- 68426-06-2, Cyclohexanepropanol, α -isopropyl- 136175-32-1, Cyclohexanepropanol, 1-hydroxy- α -isopropyl- 343771-06-2, Spiro[5.5]undecan-3-one, 2-methyl- 408523-49-9, 3-Pentanone, 4-hydroxy-1-(1-hydroxycyclohexyl)-4-methyl- 412275-51-5, 1-Oxaspiro[4.5]decane, 2-isopropenyl- 854708-70-6, Cyclohexanepropanol, α -isopropyl-, carbanilate 854712-96-2, 1-Pentyn-3-ol, 1-(1-hydroxycyclohexyl)-4-methyl- 854712-96-2, Cyclohexanol, 1-(3-hydroxy-4-methyl-1-pentynyl)- 854725-29-4, 1-Cyclohexene-1-

propanol, α -isopropenyl-, acetate 854725-31-8,
 1-Cyclohexene-1-propanol, α -isopropenyl- 855361-87-4,
 2,3-Pentanediol, 5-(1-cyclohexen-1-yl)-2-methyl- 855365-31-0,
 2,3-Pentanediol, 5-cyclohexyl-2-methyl- 855381-20-3, 3-Pentanone,
 1-(1-hydroxycyclohexyl)-4-methyl- 855398-21-9, 1-Oxaspiro[4.5]decane,
 2-isopropylidene- 855398-55-9, 1-Oxaspiro[4.5]dec-2-ene-2-methanol,
 α,α -dimethyl- 855398-59-3, 1-Oxaspiro[4.5]decane-2-methanol,
 α,α -dimethyl- 855398-61-7, 1-Oxaspiro[4.5]decane,
 2,2'-oxybis- 855398-61-7, Ether, bis(1-oxaspiro[4.5]dec-2-yl)
 855716-47-1, 1-Pentyn-3-one, 1-(1-hydroxycyclohexyl)-4-methyl-,
 2,4-dinitrophenylhydrazones 855736-88-8, 3-Pentanone,
 1-cyclohexyl-4-methyl-, 2,4-dinitrophenylhydrazones 855742-39-1,
 3-Pentanone, 4-hydroxy-1-(1-hydroxycyclohexyl)-4-methyl-,
 2,4-dinitrophenylhydrazones 855748-22-0, 2,3-Pentanediol,
 5-(1-cyclohexen-1-yl)-2-methyl-, 3-acetate 860420-29-7,
 Spiro[5.5]undecan-3-one, 2-methyl-, 2,4-dinitrophenylhydrazones
 860709-28-0, 7,9,12,21-Tetraoxatetraspiro[5.1.2.1.5.2.2.2]tetracosane,
 10,10,22,22-tetramethyl- 860712-28-3, Spiro[5.5]undec-1-en-3-ol,
 2-methyl-
 (preparation of)
 IT 855365-28-5, 2,3-Pentanediol, 5-(1-hydroxycyclohexyl)-2-methyl-,
 3-acetate 855365-29-6, 2,3-Pentanediol, 5-(1-hydroxycyclohexyl)-2-methyl-
 (rearrangements of)
 IT 855748-22-0, 2,3-Pentanediol, 5-(1-cyclohexen-1-yl)-2-methyl-,
 3-acetate
 (preparation of)
 RN 855748-22-0 HCAPLUS
 CN 2,3-Pentanediol, 5-(1-cyclohexen-1-yl)-2-methyl-, 3-acetate (5CI) (CA
 INDEX NAME)



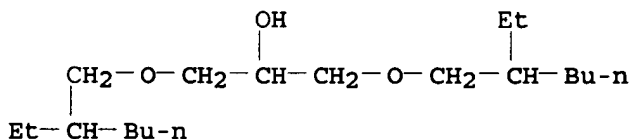
IT 855365-28-5, 2,3-Pentanediol, 5-(1-hydroxycyclohexyl)-2-methyl-,
 3-acetate
 (rearrangements of)
 RN 855365-28-5 HCAPLUS
 CN 2,3-Pentanediol, 5-(1-hydroxycyclohexyl)-2-methyl-, 3-acetate (5CI) (CA
 INDEX NAME)



L83 ANSWER 44 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1955:47996 HCAPLUS
 DN 49:47996
 OREF 49:9299i,9300a-b
 TI Sulfonation products from ethers

IN Orthner, Ludwig; Platz, Carl; Horst, Karl; Nelles, Johannes; Keppler, Helmut
 PA Farberke Hoechst AG vorm. Meister Lucius & Bruning
 DT Patent
 LA Unavailable
 FAN.CNT 1

| | PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------|--|------|----------|-----------------|------|
| PI | DE 917602 | | 19540906 | DE | <-- |
| AB | <p>SO₃H radicals are introduced in the usual manner into ethers (I) of the general formula ROR'OR'', where R and R' indicate alkyl radicals having 6-9 C atoms and R' an alkylene group with 3 C atoms substituted by OH, NH₂, NH, or Cl, to give surface-active sulfonation products, used as assistants in the textile, leather, and paper industries as leveling, wetting, emulsifying, and washing agents. Suitable I are the 1,3-bis(2-ethylhexyl) glycerol ether (II) (from epichlorohydrin and BuCH(Et)CH₂OH in the mole ratio 1:2); the compound C₆H₁₃O(CH₂)₂NH(CH₂)₂OC₆H₁₃ (from Cl(CH₂)₂NH(CH₂)₂Cl and Na isohexyloxide in the mole ratio 1:2); and dioctyl 2-bromo-1,3-propanediol ether (III). Thus, a solution of 45 parts II in 80 parts Et₂O is treated with 17 parts by weight ClSO₃H for about 4-5 hrs. at -5° with stirring. The clear solution is poured onto ice and neutralized with aqueous Na₂CO₃ solution. The sulfonate BuCH(Et)CH₂OCH₂CH(OSO₃Na)CH₂OCH₂CH(Et)Bu is a valuable wetting agent for cotton. The readily water-soluble sulfonate C₈H₁₇OCH₂CH(SO₃Na)CH₂OC₈H₁₇ is obtained by pressure-heating III with Na₂SO₃ in anhydrous EtOH at 150-60°.</p> | | | | |
| INCL | 120; 23-01 | | | | |
| CC | 27 (Fats, Fatty Oils, Waxes, and Detergents) | | | | |
| IT | <p>Textiles (assistants and auxiliary products for, sulfonation products from ethers)</p> | | | | |
| IT | <p>59068-03-0, 2-Propanol, 1,3-bis(2-ethylhexyloxy)- 62174-79-2, 2-Propanol, 1,3-bis(2-ethylhexyloxy)-, hydrogen sulfate Na salt (preparation of)</p> | | | | |
| IT | <p>59068-03-0, 2-Propanol, 1,3-bis(2-ethylhexyloxy)- (preparation of)</p> | | | | |
| RN | 59068-03-0 HCAPLUS | | | | |
| CN | 2-Propanol, 1,3-bis[(2-ethylhexyl)oxy]- (6CI, 7CI, 9CI) (CA INDEX NAME) | | | | |



L83 ANSWER 45 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN
 AN 1955:35814 HCAPLUS
 DN 49:35814
 OREF 49:6863d-i,6864a-c
 TI Phosphatide analogs. The synthesis of glycollecithins and bis-(glycol)-phosphatidic acids
 AU Baer, Erich
 CS Univ. Toronto
 SO Journal of the American Chemical Society (1953), 75, 5533-9
 CODEN: JACSAT; ISSN: 0002-7863
 DT Journal
 LA Unavailable

OS CASREACT 49:35814

AB cf. C.A. 47, 11285d. A new class of phosphatides and a generally applicable method for the synthesis of its members is described. The new phosphatides, which are analogs of both the lecithins and lysolecithins, and which differ from these substances only in that they contain glycol instead of glycerol, are called glycollecithins. They possess neither positional- nor stereoisomers. The synthesis of 2 representative members of the glycollecithins, stearoyl- (I) and palmitoylglycollecithin (II), is described and their infrared spectra and x-ray powder diffraction patterns are reported. I and II show strong hemolytic activity. (CH₂OH)₂ (124.0 g.), 31 cc. HCONMe₂, and 320 cc. CHCl₃ at -15°, 17.8 ml. pyridine in 80 cc. CHCl₃ and 60.6 g. stearoyl chloride in 400 cc. CHCl₃ added simultaneously during 15 min., the mixture stirred 45 min. without the bath, let stand until 2 layers formed, the lower layer filtered, evaporated to dryness (bath temperature 30-5°), the solid mixture of mono- (III) and distearoyl glycol (IV) stirred 15 min. with 520 cc. 99% EtOH at 40°. IV centrifuged off, the decanted solution cooled to room temperature, treated with 25 cc. water, centrifuged, the decanted solution treated during 10 min. with 240 cc. water, and let stand 1 hr. yielded 52.8 g. III, m. 59.5-60.5°. A similar procedure yielded 41.5 g. monopalmityl glycol (V), m. 52-3°. III (16.4 g.), 10.5 g. PhOPOCl₂, 55 cc. CHCl₃, and 150 cc. petr. ether (b. 60-80°) at 20° treated dropwise during 3 hrs. with 4.4 g. pyridine in 75 cc. petr. ether, the mixture let stand 15 min., the solvents evaporated in vacuo (bath temperature 25-30°), the residue in 140 cc. CHCl₃ treated with 8.8 g. pyridine and 9.1 g. powdered choline chloride, stirred 3 days, filtered, the filtrate concentrated to dryness in vacuo (bath temperature slowly raised to 40°), the residue triturated with 150 cc. petr. ether and centrifuged (the process repeated 3 times), dissolved in 180 cc. 99% EtOH, the solution added during 5 min. to 30.0 g. NH₄ reineckate and 30.0 g. anhydrous Na₂CO₃ in 1350 cc. water, the precipitate filtered, dried, triturated with EtOAc, centrifuged (the process repeated 3 times), the solid extracted with boiling EtOAc, the combined exts. concentrated in vacuo to 110 cc., the concentrate treated gradually with 180 cc. petr. ether (b. 35-60°), the precipitate centrifuged, triturated with 100 cc. 99% EtOH, centrifuged, again treated with 50 cc. EtOH, and dried in vacuo yielded 10.3 g. stearoylglycollecithin Ph ester reineckate (VI), m. 144.5-5°. The palmitoyl compound (VII) m. 141-2°. VI (8.89 g.) in 175 cc. 1:1 EtOH-Me₂CO treated rapidly with 1.56 g. Ag₂SO₄ in 135 cc. hot water, the mixture stirred 10 min., the Ag salt centrifuged, the supernatant liquid and washings concentrated to dryness in vacuo (bath temperature 35-45°), the residue kept in vacuo at 45° until it solidified, and filtered in 80 cc. Me₂CO yielded 6.11 g. stearoylglycollecithin Ph ester sulfate (VIII). VII (8.61 g.) by the same process yielded 5.67 g. of the palmitoyl compound (IX). VIII (6.37 g.) in 100 cc. 99% EtOH containing 1.34 g. Adams catalyst hydrogenated 15-20 min. at room temperature and 50 cm. water pressure, CHCl₃ added to dissolve the lecithin, the mixture centrifuged, the solution and washings added to 1.4 g. Ba(OAc)₂·H₂O in 10 cc. water, the mixture stirred 5 min., centrifuged, the solution concentrated to dryness in vacuo (bath temperature 30-5°), and the residue centrifuged in 50 cc. Me₂CO yielded 4.96 g. I, started to sinter at about 70°, formed droplets at about 80°, and formed a meniscus at 239-40°. IX (6.08 g.) yielded 4.73 g. II, sintered at 68°, formed droplets at 80°, and coalesced at 242-3°. The reineckates and CdCl₂ compds. of I and II were prepared I (3.28 g.) in 30 cc. CHCl₃ treated simultaneously during 1 hr. with 1.06 g. PhOPOCl₂ and 0.95 cc. pyridine each in 15 c.c. CHCl₃, the mixture let stand 24 hrs. at room temperature, concentrated in vacuo (bath temperature 25-35°), the residue extracted with four 50-cc. portions of boiling petr. ether (b. 35-60°), and the combined exts. concentrated to

dryness in vacuo yielded 2.51 g. distearoyl bis-glycol) phosphoric acid Ph ester (X), m. 59-60°. IX (3.00 g.) yielded 2.50 g. dipalmitoyl compound (XI), m. 51.5-2.5°. X (4.77 g.) in 95 cc. CHCl₃ and 20 cc. 99% EtOH hydrogenated 1 hr. over 0.91 g. Adams catalyst at 40-50 cm. water pressure, the solvents evaporated in vacuo, and the residue triturated with EtOH yielded 3.07 g. distearoylbis(glycol)phosphoric acid, m. 92.5-3.5°. XI (4.43 g.) yielded 3.01 g. of the dipalmitoyl compound, m. 89.0-90.5°.

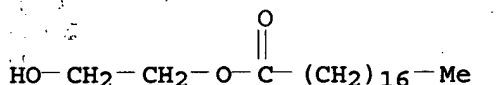
CC 10 (Organic Chemistry)

IT 111-60-4, Stearic acid, 2-hydroxyethyl ester 4219-49-2,
Palmitic acid, 2-hydroxyethyl ester
(and derivs. related to lecithins and phosphatidic acids)

IT 111-60-4, Stearic acid, 2-hydroxyethyl ester 4219-49-2,
Palmitic acid, 2-hydroxyethyl ester
(and derivs. related to lecithins and phosphatidic acids)

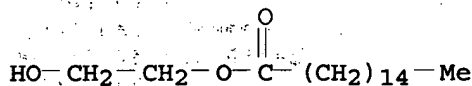
RN 111-60-4 HCAPLUS

CN Octadecanoic acid, 2-hydroxyethyl ester (9CI) (CA INDEX NAME)



RN 4219-49-2 HCAPLUS

CN Hexadecanoic acid, 2-hydroxyethyl ester (9CI) (CA INDEX NAME)



L83 ANSWER 46 OF 46 HCAPLUS COPYRIGHT 2006 ACS on STN

AN 1946:20055 HCAPLUS

DN 40:20055

OREF 40:3916d-i

TI Ester polymers

IN Gresham, Wm. F.

PA E. I. du Pont de Nemours & Co.

DT Patent

LA Unavailable

FAN.CNT 1

| PATENT NO. | KIND | DATE | APPLICATION NO. | DATE |
|------------|------|----------|-----------------|------|
| US 2397602 | | 19460402 | US | |

PI US 2397602

19460402

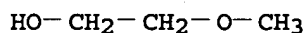
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AB The polymers are obtained by the ester interchange of hydroxy-substituted 1,3-dioxolane or polyglycol formals with the esters of organic acids. A mixture of 524 g. dimethoxyethyl adipate, 272 g. (HOCH₂CH₂O)₂CH₂ (I), 3.5 g. litharge, and 3.5 g. ZnO was heated at 125-50° under 52 mm. pressure. Under these conditions 153.5 g. CH₃OCH₂CH₂OH produced by the ester exchange was distilled out of the reaction mixture at 55°. The polyester product was treated with 18 g. water and with CO₂ to precipitate the catalysts as carbonates. The mixture was treated with decolorizing C, filtered, and the filtrate freed of water and unchanged formal. A residue of 600 g. of colorless viscous liquid was obtained which dissolved cellulose nitrate and chlorinated rubber and had the following phys. properties: OH number 137.0, saponification number 493.6, n_D25 1.4555, and d₂₅ 1.1397. The reaction between I and

[(CH₃)₂CHCH₂OCOCH₂O]₂CH₂ gave a colorless viscous liquid, OH number 313.5, saponification number 252.7, d₂₅ 1.205, n_{D25} 1.4598. Methyl methacrylate and a polyglycol formal (OH number 51.6) gave a colorless viscous liquid which on treatment with Bz₂O₂ gave a colorless solid. A solid laurate ester was obtained from ester interchange between methyl laurate and CH₂(OCH₂CH₂OCH₂OCH₂CH₂OH)₂ using MeONa as catalyst and heating 2 hrs. at 90° and 2 mm. pressure. When the reaction of Me stearate and polyglycol formal (mol. weight 1030) was carried out similarly but at 100-20° a solid stearate ester m. 41-2° was obtained. Extraction with hot C₆H₁₂ gave a solid, m. 45-6°, which was completely miscible in water. The water-soluble portion had OH number 6.3, ester number 28, and mol. weight 1410. It exhibited excellent foaming properties. Ethyl fumarate and I gave a yellow mobile liquid which on treatment with Bz₂O₂ gave a glass-like polymer. Coconut oil and polyglycol formal (mol. weight 353) gave a product which after extraction with n-C₆H₁₄ produced a residue of light brown liquid which gave an excellent foam with water. A solid laurate ester, m. 44-7° soluble in water, was prepared from ethylene polyglycol formal (OH number 58) and methyl laurate in the presence of MeONa. The esters and polymers are all nonpolar surface-acting agents.

CC 27 (Fats, Fatty Oils, Waxes, and Detergents)
 IT 109-86-4, Ethanol, 2-methoxy- 2565-36-8, Ethanol,
 2,2'-methylenedioxydi-, ester polymers 854751-31-8, Methane,
 bis[2-(2-hydroxyethoxymethoxy)ethoxy]-, ester polymers
 (preparation of)
 IT 109-86-4, Ethanol, 2-methoxy- 2565-36-8, Ethanol,
 2,2'-methylenedioxydi-, ester polymers 854751-31-8, Methane,
 bis[2-(2-hydroxyethoxymethoxy)ethoxy]-, ester polymers
 (preparation of)
 RN 109-86-4 HCAPLUS
 CN Ethanol, 2-methoxy- (8CI, 9CI) (CA INDEX NAME)

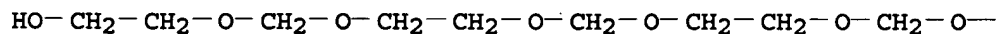


RN 2565-36-8 HCAPLUS
 CN Ethanol, 2,2'-[methylenebis(oxy)]bis- (9CI) (CA INDEX NAME)

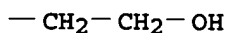


RN 854751-31-8 HCAPLUS
 CN INDEX NAME NOT YET ASSIGNED

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